Gleanings in Bee Culture

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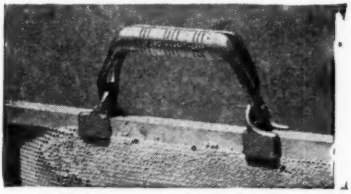

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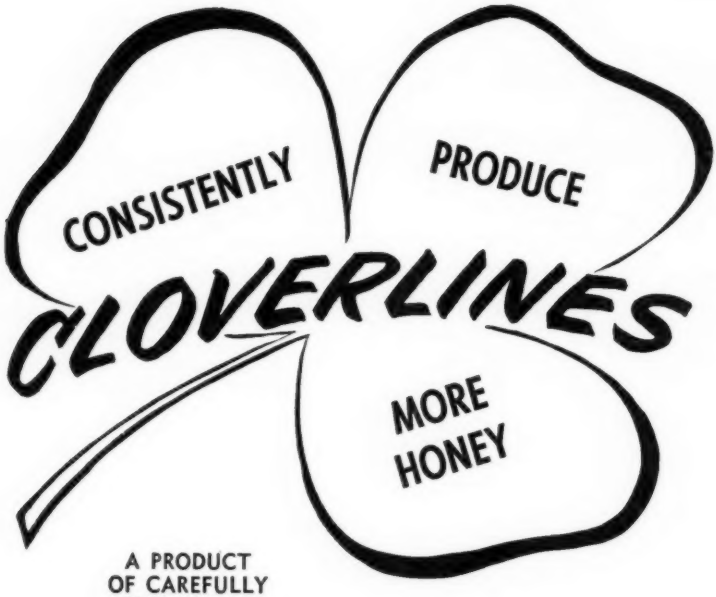

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Monthly HONEY Report

WALTER BARTH, Field Editor

General National Picture

BEES ALMOST everywhere are going into the winter with ample stores of honey and pollen. The widely adequate rainfall gives encouragement for widespread bloom in 1958. Honey is moving slowly except in the East, with prices about one cent per pound below a year ago. Many commercial beekeepers are holding out for higher prices.

One large eastern honey packer reports the largest amount of bulk in warehouses since the war. Some price cutting has appeared in scattered areas. Other packers are going to the four and one-half pound pail and the four pound honey jar in an effort to squeeze more income from each pound of honey. Exports for the season through August were slightly above last years' for the same period. The beeswax market is sluggish for this time of year.

Regional Reports

Things are very quiet on the West Coast right now. Lots of early rains throughout California, and hopes are high for normal or above normal rainfall during the winter. Many bees are being moved to winter locations in almonds. Honey plants look good in Oregon and Washington where the market for light honey is firm at 13 to 14c and a bit weaker for dark honey at 11 to 12c. California buyers are quoting 12c for white honey and 10½c for darker honeys, and considering the honey available at this time, that will probably develop into the market price.

In New Mexico and Arizona the honey flora is looking good and hopes are high for spring honey. Here the honey prices are much the same for California. Producers are holding on to honey in the hope of higher prices. Our reporters in Wyoming, Utah, Colorado, Montana, Arkansas, and Oklahoma report much the same conditions.

Beekeepers in the South are very reluctant in reporting prices or in speculating what the market might be. Colonies are in good condition in most areas except in Tennessee where heavy feeding is reported.

In Florida the nectar flows from smartweed and goldenrod ended with the first cold weather. Since then the weather has been quite dry. This is in sharp contrast to Alabama and Mississippi which states have had too much rain since September 15th.

An excess of rain is also reported in the Midwest with Iowa getting three and one-half inches in two weeks. As expected, honey plants in this area are generally in the best condition in years. In Kansas bees are going into winter with the heaviest stores in years.

It looks as though Sputnik has invaded the apiary with Bruce Morehouse of Minnesota reporting that he has offered some of his bees for testing purposes aboard the first U.S. space ship. Be careful, Bruce, for you may be asked to go along to care for your bees on the trip.

Bees are in fine shape in the Great Lakes area. Winter stores are adequate and honey plants are in good condition. Honey prices on the retail level range as follows: in glass - 8 oz., 23c; 1 lb., 37-39c; 2 lb., 69c; 4 lb., $1.19-$1.23; 5 lb., $1.49. In reviewing these prices they compare favorably with those here in Texas except that here the 5 lb. jars sell as low as $1.35.

Recent rains have helped New Jersey, New York, and Pennsylvania, but more is needed. Bees in fair shape but some feeding necessary in a few areas. Very little left in hands of beekeepers here or in New England. Everybody looking for a better season.

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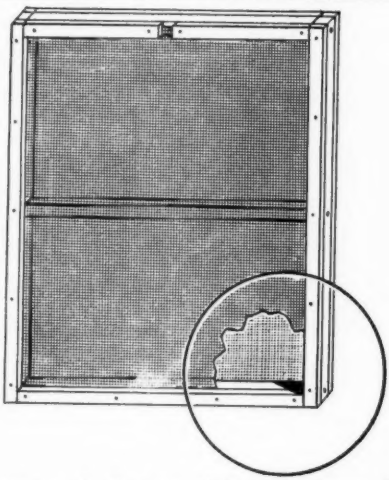

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Better Queens

The Selection of Stock

as practiced by JOHN W. HOLZBERLEIN, Meeker, Colo.

AS I LOOK back over 30 years of commercial beekeeping it seems that no one subject has been the cause of so much interest, so much speculation, so much uncertainty, and so many published words as the subject of queens. We talk a lot about the seasons, but they are out of our control whether good or bad. The markets we meet are mostly mass made and the best we can do is guess at the best time and place to sell. But the queen, that key bee in every hive that determines whether it shall be populous or weak in numbers, whether its bees shall be industrious or lazy, whether they shall be cross or gentle, whether they shall earn us some money or be just free loaders, that one bee, the queen, it has always looked as if we should be able to do more about her. And as I look forward to what I hope may be several more years of pleasant association with bees and beekeepers no feature of the future offers the challenge as the need for a method of producing better queens on a scale large enough to make them available to the whole honey-producing industry.

We believe that in recent years some definite progress has been made. Although the problems are far from being all worked out—we are not yet sure what they are—some of the answers are being found, and in an effort to create interest in what has been learned this series of articles is being offered.

It is not expected that it will attract much attention from commercial queen breeders. Most of them have worked out their own systems and are primarily interested in the quantity production of queens at a price that is generally too low for them to make much money. A good queen, a **really** good queen, is worth at least twice what we have ever had to pay for "just plain queens". Until the breeders feel sure that the purchaser will recognize a better queen, appreciate her quality, and make use of her potential, they do not see much point in going to the extra trouble and cost of trying to produce a super-quality queen, not when just **more** queens will make them the extra dollars we all want and seem to need.

Our own beginning in attempting to raise better queens was to have a dependable supply for our own colonies. Ten years in this attempt has proved to us that we can raise better queens than we have ever been able to consistently buy. They still cost us as much or more in the outlay for the queens themselves. The pay-off comes in the added honey we get from the colonies they head in honey production. There are getting to be quite a few honey producers doing work along this line and it is mainly with the idea of helping them that we have some hope.

When the realization is felt that there are and can be better queens than the run-of-the-mill stuff that one so often gets from the commercial breeder the demand for better queens will influence the supply until these better queens will become the rule. A reliable supply of really superior quality queens could well double the market for queens. How many times have we heard honey producers say that they would like to re-

John Holzberlein grafting in the morning sun.

queen their colonies with better stock, but so often they find that they replaced a fairly good old queen with a young queen that was not as good?

This does not purport that there are no good, conscientious queen breeders. There are. Some of them are far advanced in the best scientific methods of queen rearing, but the heavy demand for large numbers of queens at peak times so far outweighs the demand for quality that the accent goes mainly to quantity production. As one queen man once told me, "What difference does it make how good my queens are, if the buyer doesn't get them on April 25th it would not make any difference if they had golden wings". So you see that all the blame for poor quality queens cannot be placed on the breeder.

The weather plays such an important part in queen rearing that all of the finely timed and expertly executed operations involved in rearing a hundred or a thousand queens can be upset, yes, entirely ruined by a 30° drop in the temperature or a week of rain. This is another reason queen men have to concentrate on extra numbers so as to be able to supply the gaps left by the eccentricities of the weather. The queen breeder has many problems that his customer may never hear about.

What Does It Take to Make This Better Queen?

There are at least four leading factors that control queen quality. They are: 1, the stock from which we breed; 2, the queen cells in which the virgins are reared; 3, the nucleus in which the queen is mated and the conditions she meets there; and 4, the handling of the laying queen i.e. selection, caging, storing, shipping, and introduction. I cannot really say which one of these factors is the most important. Failure in any one of them can nullify success in the other three. We will first consider the selection of stock because it comes first, and try to cover the other three steps in three succeeding articles.

Which honeybee we consider best largely depends on what we want that bee to do. The bee best suited to honey production on a commercial scale would seldom be the best type for the back-yard operator who has only three or four hives and keeps them mainly as a source of some relaxing moments and maybe a few pounds of honey to give to his friends. Nor will the bee best suited for honey production in the Northern states or Canada be the best bee for the production of package bees in the South. For this reason alone no single strain is going to be found that will suit all customers.

The honey producer will first of all want a vigorous, aggressive bee, one that will get out in a wide range of weather, one that will defend its home against invaders, and surely one not inclined to swarm. He will, in short, want the bee that returns the most in honey for the time involved in care. And he will not be particularly interested in beauty or in uniformity in color. Nor will gentleness be one of his first demands though I cannot imagine any one condemning a strain for being gentle provided their other qualities are equal.

On the other hand, the hobbyist will first of all want a gentle bee, and he will most likely want a pretty one. A lot of bees are operated by hobbyists and their demands cannot be overlooked. There would probably be more hobby beekeepers if we had a more gentle bee to offer. The package producer wants a bee that builds up early and will produce populous colonies in time for the spring demand. So we can see that selection for any of these traits, plus many others, make the choice of a breeder a complicated, exacting job. It is a job that is never finished for breeder queens seldom last for two seasons after they are once proven, and successors of uniform characteristics must be chosen well in advance of their need so that their progeny may be tested. Selecting the ideal bee for any type of work is far from the end of the problem for fixing these desirable characteristics so that they will continue to show up in the progeny is a problem that until recent years was in no way near solution.

Until artificial insemination techniques were perfected there was little assurance that succeeding generations would long resemble the parent colony in either looks or performance.

The results of natural mating were uncertain enough when we thought that queens mated with only one drone. Now that we know that virgins may mate with as many as six or eight drones whose home hive may be as far as eight miles from the hive where the virgin took flight—just think how that complicates things. Perhaps it is a good thing that this information came gradually or the pioneer queen breeders with only natural selection of the drone line at hand might have lost their courage and given up in despair. About the only hope under natural mating conditions is to try to saturate the area with the stock one hopes to perpetuate and then discard those individuals that show that their mating activities took them outside the chosen circle. The first generation outside the chosen pattern may give us the best kind of honey-gathering colonies, but to use such a queen for a breeder is to invite all kinds of results for in just one generation one may get way off the chosen line of selection.

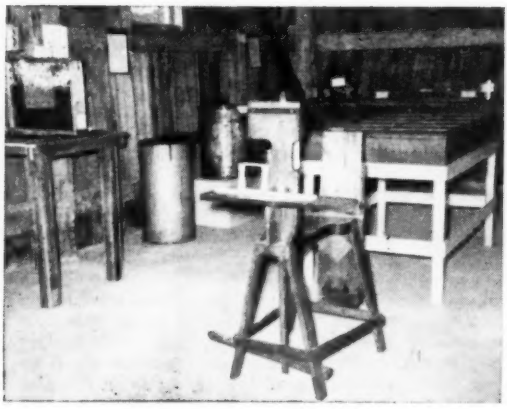
Though honeybees may change rapidly in many characteristics the saving factor may be that they do not change very much. They have been naturally selected for so many generations that the common bee traits are pretty well established. When we consider that for at least 40 centuries bees have been making their own choice of mates it is easy to see that it is going to take some time to do much in changing the behaviorisms that have been set up. While we may produce bigger bees with longer tongues and stronger wings and shorter stingers eventually, even with artificial insemination these changes are going to come slowly. Many throwbacks will show up and many lines will have to be discarded before we can have the distinction between races and strains of honeybees that we now have in chickens or pigs.

We are on the way at last, and with several universities and commercial breeders working on it, several lines have already been established. Their different characteristics are being fixed by line breeding. With undesirable individuals being constantly weeded out

(Continued on page 62)

Beekeeping Exhibit Open at Shelburne Museum

ENOCH H. TOMPKINS, Burlington, Vt.



Part of beekeeping exhibit at Shelburne Museum, Shelburne, Vermont.

AN EXHIBIT of old-time beekeeping equipment is now open to the public at the Shelburne Museum in Shelburne, Vermont. This collection of old and rare beehives and apiculturist's tools is being sponsored by the Vermont Beekeepers' Association in cooperation with the Museum. Fifty-five different items are now on display. These have been donated to the Museum by 15 beekeepers, ex-beekeepers, and friends of the Association. More items are being added continually. They are being housed in the west end of the "Red Shed" where a room has been especially prepared for this collection.

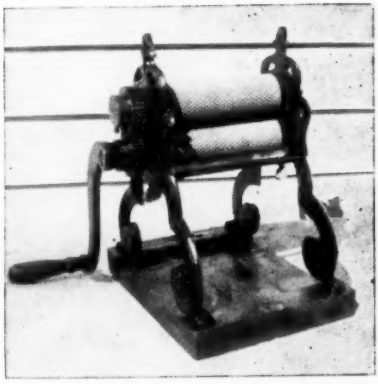
Among the items on display are various types of beehives, bee feeders, smokers, bee-hunting boxes, honey extracting equipment, and equipment for the manufacture of sheets of honeycomb foundation wax. There is also a horse-type section press for assembling comb honey boxes. This is operated by a foot pedal which lowers a press onto the partially assembled honey box. The pressure forces the dovetailed ends together and squares up the corners.

The collection of beehives shows the development of this item from the European type straw skep to the modern movable-frame hive. It includes several types of box hives, including one which has a door in the rear and a hinged bottom board. Opening the door reveals a glassed-in brood chamber and an upper compartment for surplus honey boxes. The glass in the rear of the brood chamber enabled the apiarist to observe the bees as they worked. This was the forerunner of our modern observation hives. The hinged bottom board allowed the size of hive entrance to be adjusted and also enabled the beekeeper to open up the hive bottom for removing the honeycomb from the brood chamber. The earliest type of box hive was a simply constructed box which made no provision for taking off surplus honey without destroying the bees. To remove honey from this hive it was first necessary to kill the bees with sulfur

fumes. The honeycomb was then cut from the hive. A later development was a separate compartment in the upper part of the hive into which boxes for surplus honey could be inserted. Bees could pass to these boxes through holes or slots in the bottom of the boxes and corresponding holes in the bottom of the compartment.

THE GLOBE VEIL has five cross-bars riveted through the center at the top. These button to studs on the neck-band. The bars are light spring steel; the neck-band is of hard spring brass. Netting was placed over this frame and tucked under the collar of the beekeeper's jacket. Advertised for sale by J.H.M. Cook, New York City, 1889.

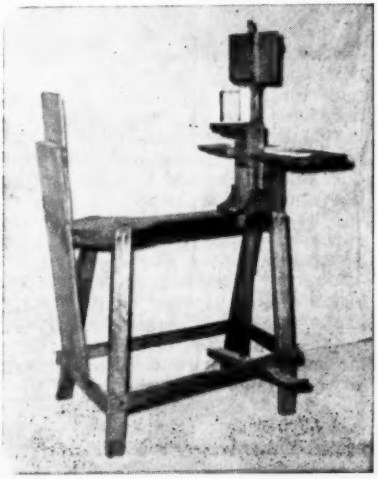
The next step forward was the development and invention of the "movable-frame" hive by the Rev. L. L. Langstroth of Philadelphia, Pennsylvania, in 1851. This invention made it possible to remove individual combs from the hive for inspection of brood or removal of surplus honey. One of the Langstroth Simplicity hives with a portico is included in the collection.



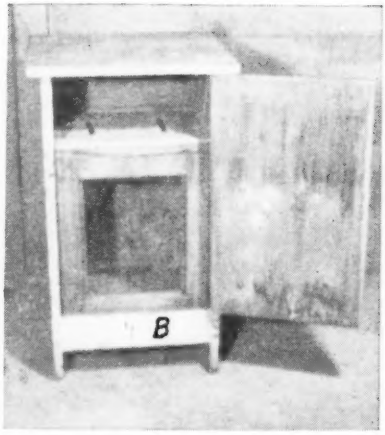
VANDERVORT FOUNDATION Mill with 6½ inch rolls.

An American beehive, patented November 24, 1863 and October 10, 1865 is also included in the Museum's collection. This is a movable-frame hive with a glass and door in the rear and a removable side held in place by four hooks and eyes.

A special type of movable-frame hive was invented and used by Augustin E. Mannum of Bristol, Vermont around 1879. The museum has one of these "Bristol" hives together with its winter packing case and comb-honey super.



HORSE-TYPE SECTION PRESS, in use around 1885.



Improved type box hive. A. Front view, showing adjustable bottom board and upper entrance. B. Rear view, showing door, glass in rear of brood chamber, and upper compartment for surplus honey.

The assortment of bee feeders includes several types of wooden trough-type feeders, a salt-box type, and a division board feeder for Mannum's "Bristol" beehive.

The bee smoker collection consists of a Clark cold-blast smoker (in use around 1890), and three types of the Bingham smoker (in use during the same period and later).

The complete outfit for making honeycomb foundation wax was formerly used by Lavius Thompson of Weybridge, Vermont around 1885. With it he turned out prize-winning sheets of foundation for himself and neighboring beekeepers. This outfit consists of a tank for melting beeswax, a dipping-board for forming sheets of wax, and a Vandervort foundation mill. The wax-melting tank consists of an inner tank for the wax and an outer tank for hot water which helped to keep the wax at the desired temperature. This tank was heated over a small stove. The dipping-board is a tapered board 4⅛" x 24" with cleats at the large end which permit it to be hung up. This size is for making surplus honey foundation. When forming sheets of wax, the board was first moistened with water, then dipped into the melted beeswax. It was then hung up to allow the wax to harden. This process was repeated until the desired thickness was obtained. After thoroughly cooling, a sheet of wax could be peeled off each side of the board. The sheet of wax was then run between the rollers of the foundation mill. These rollers embossed the bases of the honeycomb cells in the sheet of wax. Use of this foundation saved the bees some work and produced the straight combs which were necessary for their easy removal from the hive.

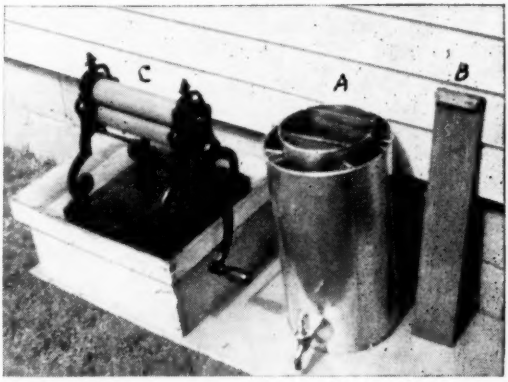
A modern observation beehive containing a single comb with bees and queen adds interest to the exhibit. A wooden tunnel leading to a knothole in the wall provides an exit for the bees. In this hive, which has glass sides, may be seen the queen bee, the male bees or drones, and the worker bees which are undeveloped females. The queen is marked by a spot of white paint on her back which makes her identification easier. The observer can watch the queen lay eggs and see the young bees in various stages of development. The storage of nectar and pollen as well as the feeding of young bees is also seen. One may watch the "honey-dance" by which one bee tells the others the direction and distance to a new source of nectar. This observation hive shows what goes on inside a hive. A modern beehive holds ten combs of the type seen here.

Enoch Tompkins of Burlington and

Robert Mead of White River Junction are members of the Museum Committee of the Vermont Beekeepers' Association. They have been collecting the various items which are on display at the Museum.

The association solicits contributions to the collection and anyone having equipment, books, magazines, etc., to donate may get in touch with one of the Committeemen or take it directly to the Shelburne Museum. A card is attached to each item which shows who gave it and other pertinent information concerning the article. A letter of acknowledgement is sent by the Museum to each donor.

Novice honey extractor, in use around 1884.



Equipment for making honeycomb foundation. A. Tank for melted wax. B. Dipping Board. C. Vandervort foundation mill. In use around 1885.

Review of "Granny's Honey and Beeswax Prescriptions"

by DR. ALICE COOK BROWN, Apt. 312, 249 Sisson Ave., Hartford Conn.

DR. ALICE COOK BROWN has compiled a very interesting booklet which she has entitled "Granny's Honey and Beeswax Prescriptions". . The booklet is divided up into several subjects: Miscellaneous Household Recipes, Beverages, Perfumes, Cosmetics, etc., Farriery, and To Establish an Apiary.

Honey and beeswax played a vital role in early American life. Just how important they were cannot be fully appreciated until one goes back to the things closest to people — their own prescriptions.

This booklet has nearly 200 recipes which have been faithfully compiled in an attempt to emphasize the importance of the bee to the survival of our forefathers and to afford a greater insight into the more intimate aspects of early American life.

With the exception of a few inaccuracies in the section "To Establish an Apiary" the booklet is well done.

I Get More Out of Beekeeping than Stings

ROBERT J. WYNDHAM, Upland, California

ONE OF THE more intriguing angles of life is that you never know what is just around the corner. It may be an unpleasant surprise. But some other time when you least expect it, an asset may be thrown into your lap for the rest of your life.

Ten years ago I was a building contractor and I was having a cup of coffee with my plumber. He complained that a swarm of bees had settled down near his front porch. The man sighed: "I'll bless the man who takes the devils away. They scare the wits out of my wife and you know how women are. . ."

Stirring my coffee I did some fast thinking. I remembered vaguely that many years ago, I had attended a lecture by a beekeeper in Amsterdam, Holland, where I was born. Lingering memories from that lecture made bees seem fascinating to me even to that day. Time and circumstances had estranged me from hobbies like photography and stamp collecting. But a man has to have some hobby, I figured. Should I go in for beekeeping? Maybe this was opportunity knocking at my door. When I considered that I had just bought some level land hugging the foothills and not too far from orange groves, my mind was made up. I told the plumber, if I could lay my hands on a hive, I would pick up the swarm that evening.

In the afternoon I went to see an acquaintance who kept some bees and I talked him into selling me a hive with combs. For good measure he threw in a ten minute "how to" lecture. When he loaned me a veil, smoker, and bee-brush, I felt a highly competent beekeeper was born then and there.

Hiving that swarm was easier than I had expected. I had never dreamed that bees could be so co-operative. When I carried the hive into my car, I felt like Hannibal after he had crossed the Alps. Carefully I drove to my future beeyard, but soon I noticed to my disgust that my car was buzzing with dozens of bees. I felt my cockiness melt like snow in the sun. It was not long before a perspiring "beekeeper" was wondering if the bees had allowed themselves to be captured so willingly, only to trick him into a horrible trap and then to take cruel revenge. I stopped my car to investigate. The hive was old and not tight. I tore a strip off my handkerchief and pushed it with a pencil into the "leak".

My enthusiasm was slightly dampened by now, but I reached my land without getting stung, which was a lot better than I had feared. I unloaded the hive and took leave of my new friends for the time being. In spite of all the mistakes a rookie beekeeper can make—and believe me, I made them—my first colony did pretty good. The orange honey flow gave it a nice start, and sage as well as wild buckwheat yielded fine that year. Before I knew it, the spirit had come over me. I ordered a dozen hives and other equipment from a supply house. I assembled the material as soon as I could, then notified the Police and Fire Departments that I was able and willing to rid people of unwelcome swarms. Pretty soon all my hives were in business. Picking up swarms, I met all kinds of nice people and some of the friendships which were sponsored by swarming bees, remain to this day. One curious thing was, that everyone who phoned to get rid of a swarm, told me it was a huge one. Often it turned out to be a small afterswarm.

One day I hived a swarm in the yard of an elderly lady. She thanked me for helping her out and could I use a beebook which had belonged to her de-

parted husband? In this way I was introduced to the "ABC and XYZ of Bee Culture", which became a turning point in my beekeeping. That lady gave me the biggest break in my apprenticeship as a beekeeper; from then on I had a lifetime's experience at my fingertips.

Several of the swarms had old queens, which I replaced. The second year I bought out a small beekeeper and acquired not only 40 more colonies, but also an extractor and honey tanks plus a quantity of equipment. Almost unnoticed, bee-fever had sneaked up on me and that winter I reconditioned the old hives, etc. Capturing more swarms and dividing, I had 112 colonies in a few years. Or did they have me? I'll never know. In my enthusiasm I talked bees to my friends and now and then gave jars of honey away. It did not take long before acquaintances and friends asked, could they buy some honey? Many people in this part of the country like to buy honey direct from the beekeeper. They talked about my honey to the neighbors and I find that I retail more honey year after year, in spite of the fact that I don't push it. A couple of years ago, I reduced my yard to 80 colonies. This seems just the right number for me to handle comfortably.

The modest amount of income which my bees bring in, is of course welcome and appreciated. For there are not many hobbies which pay instead of costing money. But I don't consider that the greatest advantage of beekeeping. For me beekeeping pays bigger dividends still in other ways. After 10 years of beekeeping I still feel thrilled to see a young queen at work. I still get a kick out of "nursing" a nuc and following its development. Also I feel nothing is as relaxing as working the bees for half a day or fixing up equipment in winter. It is **the** antidote against the stress and strain of business. And then, too, I cannot imagine anything else which gives you such a chance to keep your hand on the pulse of nature and follow the rhythm of the seasons.

But this is not all I derive from keeping bees. It opens up new vistas all the time. A couple of years ago a friend collared me. He needed a speaker for a civic organization badly. A bee talk would be just the thing. Well, I was born and raised in a country where public speaking is not considered important and therefore it is not taught in school. So I had never done any public speaking. But then, there has to be a first time, I reasoned. After cautioning my friend that he was taking a chance with a green speaker, I accepted the challenge. Though my knees were somewhat shaky, when I discovered that my audience, instead of an expected two dozen, numbered 80, I did the best I could. I don't think that talk will go down in history as a masterpiece in oratory. But the subject fascinated my audience so much that it covered up my clumsiness as a speaker.

On my way out a guest from a chapter in a neighboring city insisted that I give the same talk there. Since then I have lectured on bees and honey for about two dozen organizations in this area. I could not help meeting hundreds of nice and often interesting people on those occasions. And. . . .it did not hurt my honey sales any. The other day, after lecturing in a neighboring city, the local newspaper contacted me. Could they send out a reporter to my beeyard for an interview and pictures? The result was a feature article, which brought a dozen new customers.

Then my lectures gave me the idea that I could try my hand at some magazine articles about my beekeeping. And before I knew it, I got paid for the fun. I wonder what my beekeeping will lead to next.

If you ever hear of a hobby which can do more for a man, please let me know!

Our Cover Photo

"BEEHIVES IN WINTER.—These hives were made for experiments. Each one of the hives contains a colony on combs made by the bees. The combs are hanging down from frames, which can be moved, after opening the door of the hives (behind). In the summer the roofs can be moved up by bringng longer pieces of wood between the iron shafts at the front side of the hives. Then a magazine for honeycombs can be set up on the hives. It was proved what the bees would do: swarm or not having place enough for making combs. After opening the doors in summer it could be seen through a glass behind the doors what the bees would do." —Photo by W. Wittekindt.

The author using Geiger counter to locate the queen in the colony.

Marking the Queens with a Radio-active Substance

DR. ING. O. RAUDSZUZ,
Ruhmannsfelden/Niederbayern, West Germany

IN THE COURSE of a year it frequently becomes necessary to locate the queen in her colony, to examine or replace her, to see whether or not a new queen was raised by the colony, or simply to remove her in order to try out new beekeeping management.

Many times one wants to make certain that the queen is still in the hive, and that she was not possibly lost during a mating flight or left the colony with a swarm.

Every beekeeper knows that searching for a queen can be a disagreeable and time-consuming procedure. Also the colony is disturbed by this manipulation, and often a queen will be stung to death by her own workers in the ensuing excitement. Use of the popular colored small plates on the queen's back eases the work of locating her somewhat, however, it still remains a disagreeable chore to find a queen in a strong colony among masses of 40,000 to 60,000 bees. If the search takes approximately ten minutes per colony, this can add up to considerable time for a beekeeper with a large apiary. Beekeepers could truly benefit from any device that could cut this time in half.

Because of new technical means, it is now possible to solve this problem. The time it takes to locate the queen

even in a very strong colony can be reduced to approximately one to two minutes. By using the suggested method it is possible to locate the momentary position of the queen without even having to open the hive.

The method is quite simple. One marks the queen in the known fashion, but with one difference. A small amount of a radio-active substance is mixed into the paint. One can also glue a tiny ball of about 0.2 mm. diameter of a radio-active substance, such as radio cobalt, to the often used colored markings on the queen's back. A queen thusly marked can easily be located by going up and down the outside of the hive walls with a Geiger counter. From the attached earphones one can hear the crackling noise caused by the rays of the radio-active material. By moving the counter, for example, over the top of the hive (see illustration), one can find the spot where the counter reacts most. The queen is located vertically from this spot. Using the counter then go down along the wall of the hive, and this once again pinpoints the spot where the Geiger counter reacts most. The queen is located **vertically** from this point. (We believe the writer meant horizontally here.) By connecting the imaginary lines it is possible to find the exact location of the queen inside of the hive.

A Geiger counter is easily constructed. It works with transistors and uses two "rod" batteries of each 1.5 V. Any beekeeper interested in assembling or repairing radio sets will easily be able to build this counter.

Unfortunately, this method is not recommended for general use at this time. An unusual procedure such as this will usually pose certain problems at the beginning. There is first the question of what effect the radio-active substance will have on the queen. Experiments will have to be made to clear up this question. There have been several queens marked as mentioned above under observation at a beekeeping experiment station for the past weeks. They are reacting normally and are going about their egg laying as usual. However, these queens will have to remain under observation for some time to come, in order to know whether or not the queen's life expectancy will be influenced by the radio-active substance and whether or not it will impair damages to the reproductive glands which in turn would bring about mutations.

The radio-active substance, the radio cobalt, had an activity of approximately 0.5 /uC. per bee. It is without a doubt possible to also be able to use a much weaker energy. A Geiger counter will be able to detect even very low radio activity. Rays from luminescent clock and watch dials will be picked up by a counter even at some distance. This energy, however, is practically harmless to humans. On the other hand, it is a known fact that insects are much less susceptible to radio-active rays, therefore, in the not too distant future the amount of radio activity harmless to queens will be known.

This whole thing sounds at first like a technical plaything. As soon as the problems are solved, however, one can see behind all this an invention that will be of considerable significance to the professional beekeeper. Again and again simpler and time-saving methods are being sought in apiary management and rightly so, because only through time and labor-saving devices will beekeeping become a profitable business. The queen and her fate is of the utmost importance to the beekeeper. Many good methods of management are simply not put into practice because trying to locate the queen in her colony is too troublesome. The described method would help here and would help beekeepers to keep their expenses at a minimum.

"I pity that ole skunk if Pa ever catches him!"

GOOD Planning is GOOD Business

says CHARLES W. GOUGET, Glen Ellyn, Ill.

TIME IS MONEY, and the beekeeper who can save time doing his work is saving money and increasing his profits. We call the art of saving time "efficiency" because in efficiency time is the "essence".

Since beekeeping runs on a narrow margin of profit, wise planning becomes especially important. Every operation that contributes to production should be an integral part of a well planned whole which will save time by avoiding unnecessary handling, duplication, and hand labor. Hand labor is expensive and slow, and should be avoided wherever a job can be done profitably by machinery.

Successful planning involves, of necessity, a calendar of work for the year, much on the order of a "greenhouse calendar" planned by a florist. Year-round planning will help to anticipate problems before they arise and it will also help to avoid much duplication and frustration that can arise from the lack of forethought. Year-round planning is a part of what may be termed "long range" planning which may include such items as the beekeeper's requeening program over a period of years with a definite objective in view; anticipating his production for the year, his perennial scheme of advertising for moving his products and finding new markets, his price policies relative to the market and other beekeepers, and even his bookkeeping system.

1. **Planning a Requeening Program:**

A beekeeper's requeening program may have many objectives and among them may be gentleness, color, length of tongue, and/or production, but since the beekeeper is in business to sell honey, production becomes the primary consideration.

Keeping in mind that a beekeeper may be worse off from the standpoint of actual profits with too much honey than he may be with too little, the object of any requeening program should not be merely to produce more and more honey, but to produce as much as the beekeeper needs for his market with as little work and energy as possible. This means, for example, that an apiary with 100 hives run on a "let-alone" basis may have 50 good queens and 50 poor ones according to the law of chance distribution. It also means that while half of the hives produce almost nothing the beekeeper is spending twice the time, energy, and labor to produce the honey he needs in the better half of the hives.

To replace all the poor queens in the poor hives will increase production, but it will not improve the beekeeper's economic condition unless he can sell the increase at a fair profit. Therefore, a sensible requeening program will aim to find how many high producing hives are necessary to supply a given market.

Any requeening beyond this basic minimum requirement may turn out to be a waste that may result in uncontrolled surpluses and smaller profits for the beekeeper. Good judgment is a most important factor in any business.

2. **Planning to Produce the New Crop:**

Obviously beekeepers cannot plan production with any degree of certainty because Nature can upset the best plans of mice and men. Most beekeepers can anticipate their production by the predicted condition of the honey plants and by past experiences. If, for example, last year was a poor sweet

clover year, the chances are that next season may be a good one largely because sweet clover is a biennial and produces flowers every second year.

Of course, any such prediction would be subject to a great many "ifs". If conditions turn out to be good the chances are that the beekeeper will again obtain a full crop and even a surplus, consequently it would be unwise for this beekeeper to operate additional hives to make up last year's loss. Instead, he should aim to produce only what he thinks his market will absorb comfortably, based on his past experiences in marketing and the anticipation of a good crop. In addition he should not overlook the eventuality of a surplus that must be sold at a fair profit. If he fails to consider the above possibilities he may, in effect, be competing with himself for his own market.

In too many instances the national surpluses of one year overlap or nearly overlap the new crop the following season. A quote from a recent newsletter on the honey market will help to make this fact more clear:

"From all the reports received it is a quite generally accepted fact that beekeepers will be able to approach the new crop marketing season assured of a firm market, with very little honey carried over into the new year".

This means that the market for honey is nearly always saturated to a point where national advertising campaigns and government purchases can hardly "soak" up enough honey to make a great deal of difference in the selling price. This unfortunate condition will correct itself only when some measure of production control is exercised by the individual beekeeper at the source, to the extent that he will produce just enough for his own market and no more. When this happens it may not be necessary to spend so much time and energy and money to create more or less artificial demands that have little lasting effects on the market. The fact that some foreign countries with living standards far below our own can sell honey for $ .50, $ .60, and even $1.50 a pound would seem to indicate that the selling price of our honey is largely a problem of supply and demand.

3. **Planning for New Markets:**

Planning for surpluses after the surplus has already arrived is much like locking the door "after the horse is stolen" because surpluses also must be sold at a reasonable profit if a "price" is to be maintained on the market. Selling surplus $ .35 honey for 20 cents a pound may remove the surplus by giving it away, but the cure (getting rid of the surplus) in a long run, may do more harm than the disease, i.e. keeping the honey on hand. Cheap honey tends to force the general price level down to a point where no one can make any money. This is the "Frankenstein" that we have created and the predicament in which we have found ourselves for many years.

Selling surpluses usually requires a different approach to the selling problem if the beekeeper is to avoid the easy, "give-away" technique. If he has been selling his crop largely through stores he may find that he can sell a great deal more honey at a better price by peddling it from door to door or by enlisting the services of a reliable food vendor such as a milkman or a butter and egg man.

Again, the versatile beekeeper may find that he can convert $ .35 honey into related products that may sell for a great deal more than honey and which often sell a great deal more easily. Most of us can think of beekeepers who have turned $ .35 honey into $1.50 a pound candy or 50 cent honey spread, and who now have a thriving business in these so-called sidelines. Most of them started with a new product as an experiment.

4. **Planning for a New "Lead" Item:**

When a beekeeper finds that a new item "clicks" on the market he should try to exploit this advantage by careful planning. Without careful planning he may find himself out of business in the new item almost before he starts. Many factors may be considered in promoting a new item:

a. Is it necessary or even wise to advertise the new item?
b. Will advertising create a demand beyond the ability of the producer to supply the item with the present equipment?
c. What are the long term potentialities of the product?
d. Will new equipment be needed eventually to produce the product, and will this equipment need additional help to operate it?

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e. Can the selling price be raised to make up for any additional costs without destroying the demand?
f. If the demand can be met easily with present equipment what kind of a sensible program can be adopted for further expansion, that will still keep the product constantly on the grocers' shelves before the public eye? These problems and many more must be solved by wise planning if a new product is to continue to hold a place on the market.

5. **Planning for Service to Customers:**

Motorists will patronize the service station where the attendants "swarm" out to fill the gas tank, check the oil, tires, and battery, and clean the windshield with the side windows thrown in for good measure. These same motorists will avoid a station where the attendant merely fills the gas tank and collects the money. People in general like attention, and customers demand it.

When a customer approaches a roadside stand, or when he enters a store he expects someone to pay courteous attention to him. It makes little difference how many customers there may be present, each one demands the same attention, and it is the problem of the storekeeper to provide it. If a customer must "hunt" for someone to wait on him, or wait until two clerks finish some family gossip he is not liable to return again.

The person who sells any product must literally "bend over backwards" to please the customers. Usually such service is planned, it does not happen accidentally. The service should be courteous, pleasing, and friendly so that the customer will want to return—if for no other reason than to meet nice people. In a like manner the service to grocery stores should be reliable and friendly. Deliveries must be sure and made at definite intervals so that the grocer may depend upon them. Every effort should be made to keep honey on the grocer's shelves at all times, and if he should run out unexpectedly an S.O.S. to the beekeeper should bring more immediately. At the same time the beekeeper should create the impression that it has been a pleasure to serve his customer. Such an attitude on the part of large organizations has led many of them to adopt the motto that: "The customer is always right".

6. **Planning to Produce a Quality Product:**

Any beekeeper that sells his products to the public must compete with the best honey products on the market, products that are put up in attractive containers which have real eye appeal because they have been produced under the costly processing of large organizations. These "super" products often present a real challenge to the local beekeeper in price as well as quality, a fact which means that the local beekeeper must maintain a high standard if he is to obtain even a fair share of the local trade.

Again, maintaining a standard is a planned undertaking. It means that the small beekeeper must plan to obtain equipment that will turn out a quality product in record time. Make-shift, cumbersome, time-consuming hand methods cannot compete with machines. Only machines can compete with machines, consequently the small beekeeper must plan to substitute machinery for hand labor wherever it pays to do so. If he does not it will be difficult for him to maintain a standard of quality and even more difficult for him to compete on the open market.

7. **Planning a System of Bookkeeping:**

The fact that a business takes in more money than it pays out does not mean that the business is making a profit, in fact, it could be operating at a loss. Such an unfortunate circumstance may result from a very "loose" system of bookkeeping or from no bookkeeping at all. A good system of bookkeeping, therefore, should be a part of all long range planning of every beekeeper if he is to know whether or not he is making a "real" profit or just running on his capital investment. The bookkeeping system need not be complicated, but it must be accurate and it must include all the factors that work for or against making a real profit such as labor, depreciation, interest on the investment, etc.

In order to avoid overlooking many of the items that make for profit or loss an inventory of the entire apiary should be made each year. This should be the starting point for any bookkeeping system because a failure to take inventories may hide many actual expenses not

otherwise realized. Regular inventories may help the beekeeper in the following ways:

a. To help determine his net worth at definite intervals and to show any increase or decrease in it.
b. To ascertain the amount of money he has tied up in equipment and other assets.
c. To help determine a basis for charging depreciation and interest on the investment.

In order to avoid omissions it is wise to use some prepared printed form on which various types of farm property are listed. Of course, it will be necessary to modify the suggested list for beekeeping. Some of the items usually listed may be grouped under the following headings:

I. Resources: Land, buildings, and improvements, beehives, honey on hand, machinery and equipment, cash on hand, notes and accounts receivable.
II. Liabilities: Mortgages and notes payable, accounts payable, depreciation on equipment, and interest on the investment.

A good bookkeeping system can resolve itself down to a good billing system for sales and a Cash Journal worked out on a "Cash Received" and "Cash Paid" basis.

Short Range Planning

Since beekeepers must work on a small margin of profit any part of the honey business that is run inefficiently may make the difference between a profit and a loss.

Winter activities are a very important part of the honey business, and winter should not be considered as a beekeeper's vacation when "dreams" of Florida overcome the urge to get things done. Shiftless procedures are wasteful of time, money, and equipment. This means that winter work should be carried through with the same vigor that supplies the "pressure of necessity" during the spring and summer months because it too is money in the pocket. Every beekeeper will have his own procedure, but it should be put down on paper so that nothing will be forgotten and so that work will follow in natural sequence without conflict. Such a winter sequence could be as follows:

1. Finish all extracting as early as possible in the fall.
2. Render wax or prepare cappings, etc., for shipment.
3. Clean honey house and equipment thoroughly and arrange in good order for an inventory.
4. Make a complete inventory on an acceptable form and compare this with last year's inventory.
5. On the basis of the inventories determine last season's profits or losses and approximately the wages earned per hour.
6. Repair equipment, paint supers, make new frames, etc.
7. Prepare complete supers to be used in spring and summer additions.
8. Check the equipment and supplies necessary for spring feeding.

It pays to make work lists from day to day so that items may be checked off as they are completed. This procedure gives one a sense of accomplishment and gets things done efficiently.

Spring is really the busy time for the beekeeper, and unless he is well organized much valuable time and energy may be spent in useless frustration and duplication. Again, a plan should be adopted and carried through:

1. A feeding program should be decided upon as soon as possible.
2. Every effort should be made to reduce unnecessary manipulations within the boundaries of good swarm control.
3. The requeening program should be planned and the source of the queens decided upon so that they may be ordered in sufficient time for delivery when they are needed.
4. Nucs should be made ready and placed where they are to be used.
5. Honey supers should be added to hives to take care of overcrowding and of the honey flow.

During the summer honey can be removed as soon as there is enough capped comb to make a good run. Porter bee escapes will save a great deal of time in removing honey if they are placed on the hives a day or two before the honey is removed. Extracting again completes the cycle of work for the year and winter has rolled around to begin preparing for the next season. If the beekeeper has followed a workable plan for the year he will realize at this point that "Good Planning is Good Business".

Beekeeping in Nevada

FLOYD HILBIG, Reno, Nevada
Chief Apiary Inspector

NEVADA IS one of the largest states in the nation with an area of 110,540 square miles. Much of this area is arid with very little vegetation. Irrigated cropland is relatively low compared with such a large area, amounting to some 600,000 acres.

The mountain ranges within the state are high and sparsely covered with juniper and pinon pine tress. These ranges are of no value to the beekeeper for honey production. However, along the western side of the state, the Sierra Nevada Range is of utmost importance to beekeepers in western Nevada.

Black: Primary beekeeping areas; white: Arid deserts, brush, and grasslands.

The Sierras come into full bloom in the spring with mountain-blooming plants such as bitter brush, wild peach brush, manzanita, and snow-berry.

Agriculture in Nevada can be found along its rivers, which flow from the high mountains. The Carson and Walker Rivers flow from the Sierra Mountains into Smith and Mason Valleys, and the Truckee River flows from Lake Tahoe in the Sierra passing through Reno and the Truckee Meadows, and supplies water for irrigation in the Fallon area, east of Reno.

The Humboldt River, which flows down from the mountains in Elko County, supplies water for a large irrigated valley in Pershing County, known as the Nevada Nile.

The majority of Nevada's 7,000 colonies are located in northwestern Nevada in Lyon, Churchill, and Pershing Counties. Each valley is within a large irrigation district, which makes it possible for large acreages of alfalfa. The growing season is short, with the first bloom starting in June, and finishing up with the third bloom in September. The average growing season in northwestern Nevada is approximately 120 days, depending upon spring frosts.

Because of the great distances between valleys, there is very little migratory beekeeping, except for the spring movement to the mountains for early build-up. Honey of excellent quality, produced from alfalfa and white sweet clover, grades white to water white with a very low moisture content. Average yields over the last five-year period have been 80 pounds per colony. Yields of up to 175 pounds per colony are not uncommon.

White sweet clover is a major honey plant in Elko and Humboldt Counties, and beekeepers produce water white honey along the Humboldt River during favorable weather.

(Continued on page 60)

Beekeeping in the Land of Nippon

CLARENCE E. BLINN, Rocky Ford, Colo.

Approved for release by Public Information Office, Fort Carson, Colo.

Jorota Sugizaki and the author examining a frame of bees.

OUR MEDICAL UNIT was moved from Korea to Japan in the spring of 1955. Our new quarters were at the southwestern Command Headquarters located on the shore of Lake Biwa, Japan's largest fresh water lake. Camp Otsu was about a 20 minutes electric train trip to Kyoto, Japan's old capital. The old and beautiful traditional-culture Japan is well preserved in this city. Many festivals are held here and women still wear the colorful kimono on the streets. Many ancient stately shrines and temples may be visited in this area.

When we finally were settled in our new army home, I had a chance to look about the countryside. I was looking for new insects for my collection when I found honeybees working in some of the spring flowers. Seeing them brought back old memories of my beehive in Korea. I wondered if it was possible to find one in Japan. One of the maids working in the officer's quarters said there was a beekeeper living down the road about a half mile away. My jeep was gone at the time, so we asked two Japanese carpenters if we could borrow their bicycles for a few minutes.

We found him working in his garden (or possibly farm). He raised flowers which he cut and took to town to sell. My maid interpreter introduced us to each other and we began to "talk"

about beekeeping. I asked if many people kept bees in the area. He said there were several in the vicinity. During the conversation he mentioned that some people move their bees with the season from the southern island, Kyushu to Hokkaido, the northern island. I always tried to learn the name of insects in the language of the country. After I learned his name was Jirota Sugizaki, he said the honeybee is called "Mitsubachi" and honey is called "Hachimitsu". I told him I had studied about beekeeping in books and now I wanted to learn more by working with them. (After my experience in Korea, I needed help.) I asked if it would be possible for him to buy me a hive of bees, a smoker, bee veil, gloves, and a queen cage. He said he could get them in about a week. He refused to take any money in advance which I thought was a very admirable thing since I was a foreign stranger to him.

I Get a Hive of Bees

The following week he made a gesture which I like to think is typical of beekeepers the world over. That is to be willing sometimes to give a little more than taking. He said I could have one of his four hives at no cost if I would bring it back at the time I returned to the United States. I thanked him very much for the offer, but told him the Post Engineers used large amounts of insecticide in the area where I would keep them and I didn't want to cause a financial loss to him in case they were poisoned.

I paid him a price which was about that in the United States for the bees and equipment. He closed the entrance that night and in the morning we tied the cover down and loaded it onto his three-wheeled bicycle. The Japanese Security Policeman had a puzzled look on his face when Sugizaki San tried to explain why he was taking a beehive onto a army post. The location for my hive was to be back of my office which was some distance from the General's office. I shuddered to think what would happen if the General ever learned about bees back of offices in his command. As we unloaded the hive, Jirota told me to leave the entrance closed for two days, otherwise the field bees would return to the old site.

The hive was unique in that it had features which allowed for ventilation, moving, and over-wintering. The upper half of the front of the hive body and the lower half of the back was made of screen. In front of the screens were wooden panels which slid up and down in grooved strips on the sides of the body. When the panel was raised in the back, a large area was open to direct ventilation to the frames. When the panel at the front was lifted, there was no screen exposed. When it was down, the entrance was closed off and the screened area provided ventilation. When the rear panel was down and the front one up, the hive made a nice overwintering hive. When hot weather comes in the summer it is converted into a practical summer hive by raising the back panel.

About a week later, the Public Information Officer of the U. S. Army found out in some way I had a beehive on post. A photographer came and asked if he might take a picture for the Pacific Edition of the **Stars** and **Stripes.** I told him the picture might be more interesting if Jirota was in the picture also. He thought that might be a good idea, so we agreed to wait until I could see Jirota. He was willing to come along and we posed beside the opened hive of Italian honeybees. The picture and a short article was printed in the **Stars** and **Stripes** and immediately was picked up by two Japanese newspapers. I have always hoped it had some value for cementing friendship between our countries. I never heard anything from the General but when I was introduced to his wife she was very interested in beekeeping when told I was the one with the bees on post.

As the "Sakura" (cherry) blossom season came on, I had visions of having honey from the famous Japanese cherry blossoms. I was very disappointed to find no bees and very few other insects working the blossoms. I don't know if this is true in other parts of Japan or not. The cherry trees produced only a few small fruits later in the season. This species is used more as an ornamental than for fruit production.

The main honey flow had passed before I bought the hive. During the remainder of the season, the bees worked the clover in the lawns and the cucumbers of the U. S. Army Quartermaster Hydroponic Farm near by.

The armed forces had two of these farms in Japan. Vegetables are grown in sand and gravel with nutrient carrying water, flowing past their roots. The officer in charge of the farm said three hives of bees were kept on the farm for pollination purposes. There was some danger of purchasing produce grown in contaminated soil which might cause human disease from local farms. Many vegetables would perish if they were shipped from the U. S.

I might explain here at this point, some terms used by Americans in Japan and Korea. "Honey wagons" and "honey buckets" do not have the same conotation as a beekeeper might think. For centuries, human wastes or "night soil" has been used for fertilizer. It is not uncommon to see ox-drawn wagons carrying buckets of night soil coming from the cities. These are called "honey wagons".

My Hive Didn't Store Much Surplus

I took some honey from the combs. It had a very sweet taste similar to that of sugar sirup and was medium light in color. I bought some honey at a hotel about a quarter of the way up on Mount Fuji which had a bitter taste. It was sold in pop bottles with the standard caps like we have in the U. S.

I noticed a piece of paper stapled on my hive with Japanese writing and Arabic numerals on it. I saw that the numbers meant a date of the year but I couldn't understand the other. I learned it was an inspection certificate. At some time, "mitsubachi densenbyo" (honeybee diseases) were brought in with new races of bees from other countries. Japanese beekeepers are bothered by the same problems we are. If my interpreter was right, one half of the cost of a colony is paid to the beekeeper by the government when a diseased hive is destroyed. I couldn't be understood when I inquired about research with antibiotics for disease control.

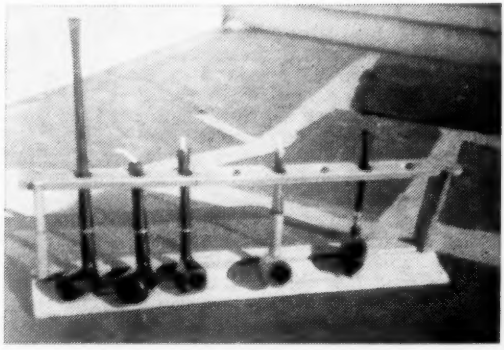
Japanese beekeepers have problems with insecticides as we do in the United States. Parathion, DDT, BHC, and Malathion are for sale in Japanese markets and used on the crops. There was one day when I estimated I lost two or three hundred bees to some insecticide. I talked to the entomologist with the Post Engineers and learned no insecticide had been used on the post that day. They must have been poisoned from an outside source of insecticide.

Jirota was not at home when I brought the hive back in October. I had gotten my orders to return to the U. S. and be released from active duty. His wife was home so I asked her to say "Sayonara" (Good-bye) to him for me.

It's An Idea

W. H. STRICKER, Annandale, N. J.

GOT A BEEKEEPER friend who is a pipe smoker? If so, make him a pipe rack with a shallow frame mounted on a piece of molding. Drill holes in top of frame; stain or varnish the finished product.



Four Generations of Beekeeping in Hastings County, Ontario

MINNIE "BEE" KNIGHTLEY, Roslin, Ontario
Lady Apiarist — 60 Years

A sizeable home apiary. Notice the wheelbarrow for transporting supers to and from the apiary.

JUST A FEW days ago, I had a good hearty "chuckle", while listening to a Lady Commentator on a Canadian Broadcasting Station giving out a lot of statistics about women being gainfully employed, and how times and practices have changed since the turn of the present century. Her remarks dealt largely with factory workers, office workers, librarians, dietitians, and some of the professions taken up by women successfully, including a small number who have been quite successful in political and public life. Why did I "chuckle"? Because I was born and raised on a farm in the late 1800's. To be absolutely correct I was born in 1886. Farm women in my young days were the busiest and most industrious people on the whole continent. Besides raising the next generation, a farmer's wife and his daughters, had to help with all sorts of chores, attend sick animals, milk the cows, make cheese and butter, work in the sugar bush to make syrup and sugar, pick wild fruits and preserve them, yes, even wash and card wool, spin it, and when the long winter evenings came it was hours of knitting socks and mittens, some for the family and others for sale. Those were the days when women really worked and made a worthwhile contribution to the Nation's wealth.

While still a school girl I obtained my first experience with bees and commercial beekeeping. While only on a small scale, it was another source of income to augment what came in from the sale of milk, butter, eggs and dressed poultry, and garden truck. A good honey crop meant a few extras we would not otherwise have had. My grandfather, I am informed, had a few

skeps of bees about 1860, which in turn were increased by my father, and successively by my eldest brother, who although now in his 87th year is still an active beekeeper. Here I might mention my daughter and son-in-law are considered the leading beekeepers in Hastings County today. Further, my grandsons, 12 and 10, are already showing an aptitude toward the business.

I can recall as clearly as if it were only yesterday my brother asked me to help him with the bees for which he promised he would buy me a bicycle. I was only 12 then, so you see I was active in honey production as early as 1898, making in all nearly 60 years' experience during which time there have been many changes and much improvement in commercial beekeeping, of which I intend to write at some length in subsequent articles. Incidentally, I got my bicycle and very soon learned it was not only for pleasure. As soon as the honey crop was off it became my little chore to wheel into Belleville, a small matter of 16 miles, to peddle honey from door to door, and to deliver to regular customers who insisted upon getting a good supply of the best Hastings County honey from year to year. Money was so scarce in those days I have often spent nearly a whole day wheeling to and from Belleville to sell honey and could not afford to spend a nickle for a cup of tea.

Beekeeping is Interesting, Fascinating, but Hazardous

For six to seven months of the year bees are a constant care and some of my work days would run up to 16, yes, even 18 hours. My first introduction to a bee yard was made on a late April day of a late spring when there were still snowbanks along the roadside and the snow was thick in the bush. It was a bright sunshiny day and pools of water were lying in the fields from the thaw. With high rubber boots, many sizes too big for me, I hung on the arm of my brother who was leading the way to the corner of a field, sheltered by bush on the north and east, where he had wintered approximately 35 to 40 hives.

He repeatedly warned me not to be afraid of the bees. A few stings are good for the health he told me. I patiently watched him unpack the hives so that the inhabitants could have a free fly in the warm spring air. It was my job to carry away the used packing materials a safe distance from the hives to be burned. In those days the hives were arranged in pairs back to back, then covered with hay or straw and finally with cedar boughs to give added warmth, and protection from the hard winter weather. A small hole large enough for a bee to leave or enter the hive was kept open by the warm air generated by the bees, which is usually about 40 to 45 degrees.

The next operation I learned was to test the weight of each hive which was the only indication whether the bees had enough food to last them over until the pollen and nectar were available. When a hive proved too light it was an indication that artificial feeding was necessary. If we had any honey left over from the previous season we mixed that with water to make a syrup, or we would use pure cane sugar for the same purpose. This syrup is placed in honey pails which have many perforations in the cover which are placed upside down in a super above the hive. The bees take this syrup as they require it and, strange as it may seem, if they do not require the syrup they will seal the perforations. My job here was to use the smoker, so that my brother had both hands free to lift off the tops, or covers, and put on the supers and syrup. Yes I got a few stings. One I shall always remember, because it was on my lower lip and the swelling was so large I had difficulty eating my supper; but I was so hungry after working in the field the best part of a day I did not let a swollen lip stop me filling my stomach before retiring to a well-earned rest.

Thereafter, I gradually went through all the stages of beekeeping, the removal of the honey crop, extracting from the hand operation to the present day electrically operated centrifugal extractor, all the various methods of packing for both the retail and wholesale trade. I was one of the first apiarists to practice clipping the queen's wings to control swarming, the use of escape boards in order to get the bees out of the honey supers, also the use of carbolic to drive the bees down to facilitate more convenient removal of the honey. When I married, and with

(Continued on page 60)

XUM

With a Bit of Fruit

MRS. BENJ. NIELSEN
Aurora, Nebraska

Honey crusted pears. — Photo courtesy Kellog Company

ALONG ABOUT this time of the year we seem to become tired of the old familiar desserts and look around for something new or a bit different to offer the family. So let's see if we can add a new twist to some of your old favorite fruits. If you have been hesitating to make a start in honey cookery, here is a simple way to start on this rewarding adventure;

Fruits and honey have a special affinity for each other; honey enhancing the delicate fruit flavors as the natural sugars of each mingle and merge. Here are three easy-to-do and tasty treats to begin with. Who knows, maybe they will inspire you to adventuring on concoctions of your own.

Honey Crusted Pears

One and ½ cups rice cereal, 3 large fresh pears, 2 tablespoons lemon juice, ¼ cup honey, 1 tablespoon butter, and ⅛ teaspoon nutmeg.

Crush cereal into fine crumbs. Pare fruit and cut in half lengthwise; remove core. Dip halves in mixture of lemon juice and honey; roll in crumbs. Place, cut side up, in greased shallow baking dish. Dot with butter and sprinkle with nutmeg. Bake in moderately hot oven, 400°F. about 40 minutes or until tender. Serve with custard sauce, warm. Canned pears may be used and baking time reduced.

Honey Apple Crisp

Eight good-size tart apples, 1 tablespoon lemon juice, 2 tablespoons honey, 1 teaspoon cinnamon, 1 cup flour, 1 cup brown sugar, and ½ cup butter.

Peel, core, and slice apples into a well-greased 8 x 8 x 2" baking pan or dish. Blend lemon juice, honey, and cinnamon and drizzle evenly over apple slices. Place flour, brown sugar, and butter in a bowl and work with pastry blender or fork until mixture resembles crumbs. Sprinkle over apples. Bake in moderately hot oven, 375°F., 30 to 40 minutes, or until apples are tender. Serves six.

Honey Plum Pudding

One and ¾ cups raisins, ⅓ cup finely cut citron, 1 medium size apple, peeled and chopped, 1 tablespoon grated orange rind, ½ cup orange juice, 2 eggs, slightly beaten, ½ cup honey, 1 cup chopped Brazil nuts, ½ cup ground suet, ¾ cups dry bread crumbs, ½ cup sifted flour, 1 teaspoon baking powder, ½ teaspoon soda, ¼ cup brown sugar, ½ teaspoon salt, ½ teaspoon cinnamon, ¼ teaspoon allspice, and ¼ teaspoon cloves.

Soak raisins, citron, apple, and orange rind in the orange juice for one hour. Combine eggs and honey; stir in nuts, suet, and crumbs. Blend well. Stir in fruit mixture. Turn into well-greased 2-quart mold. Cover with foil; tie tightly. Place in larger container and add hot water to half the depth of the mold. Cover. Steam for 5 hours, adding water during steaming if necessary. Serves 12. Serve with lemon sauce. May be stored and reheated when ready to serve.

FROM Foreign LANDS

Translated and Edited by Erika Barth

Stabilized Royal Jelly:

STABILIZED Royal Jelly is offered by an advertisement in the AUSTRALIAN BEE JOURNAL. The jelly is reported to be harvested from cells within 24 hours of grafting under infrared light at night. No advantages for this system are given but perhaps some queen breeders can throw some light on this matter. The Australian Royal Jelly is capsuled and stabilized by graduates in Pharmacy and Chemistry.

This Royal Jelly is sold in vials of 15 capsules, each containing 50mgs. of royal jelly. A 20 per cent discount is given on purchases of six vials. Although the royal jelly is sold without therapeutic claims, the producing beekeeper, Rex Peacock (21 Carbine St., Kerang, Australia), offers scientific and technical data for a small charge.

Australian Bee Journal.

New Zealand Wants to Manufacture Mead:

THE NATIONAL Beekeepers' Association of New Zealand has applied to the Government to have the licensing Act amended to permit the production and sale of honey mead and the matter is to be considered by a select committee on the wine industry.

New Zealand Beekeeper.

Wintering Nuclei:

NUCLEI INTENDED to be wintered should have six brood combs at least with plenty of food and a winter passage above shrinking down to four combs when well clustered. Keep hive clear of grass and weeds around the bottom to allow plenty of ventilation but locate nuclei so that they are well sheltered from storms. These small swarms will winter very well unless subjected to heavy frosts in late January or early February.

Once breeding begins in these small colonies their stores melt rapidly and a frame of sealed food kept over from the year before will prove a great incentive to get a brood nest well established. Later should a colony in the apiary prove to be making very slow progress the old queen may be removed and the nucleus placed on top with a sheet of paper between. This is work for March and April.

Any queenless colony or a swarm headed with a drone layer may also be united with a nucleus after removal of the defective queen.

The Scottish Beekeeper.

The Mysterious Power of Royal Jelly

SO MANY PEOPLE have become excited over the reported powers of royal jelly. Scores of articles are appearing in the press heralding the values derived from the use or consumption of this glandular product. What magic power does this food have to so excite the world? At last the answer was found. . . .the magic ingredient is now revealed for all to see. In an article in the AUSTRALASIAN BEEKEEPER called "Royal Jelly—**Boost** from Belgium", an analysis of royal jelly is given. The last ingredient in the analysis is dynamite (radioactive product). . . .if this analysis is to be followed, then by all means, dear readers, use royal jelly if you want to get a charge out of life.

Editorials

What the National Convention Means to You

EVERY BEEKEEPER who possibly can should attend the National Convention. Here will be an opportunity to meet and converse with industry notables and prominent beekeepers from all parts of the nation. This will be a good place to renew old friendships and discuss matters of common interest.

The Program Chairman, Mr. L. R. Budge, and the Local Arrangements Chairman, Mr. H. R. Swisher, have worked hard to make this a "worth while event". It merits your support both from the entertainment and business angles.

This is your opportunity to take part in industry affairs and try to help solve some of our many industry problems. Help yourself by Helping the Industry. Come to Columbus, Ohio, January 28-31!

Two-Legged Thieves

THE PROBLEM of vandals destroying an apiary arises occasionally and the solution is not an easy one. Strychnine mixed with raw eggs is quite effective for skunks. Large traps and electric fences are quite effective for bears. Two-legged thieves, however, must be dealt with in a more delicate manner.

There are insurance companies now who offer comprehensive policies for fire, theft, wind storm, etc., for beekeepers. This of course is a help but it still is not a solution to the problem.

If a beekeeper is robbed continually by two-legged thieves he will eventually have to stop beekeeping. The most recent complaint we have received was from a man who spends his summers on a farm and his winters in the city. Each spring when he returns to his farm he finds all the honey stolen from the hives and the bees dead. He notified the State Police but as yet they have been unable to apprehend the thieves and as a result our beekeeping friend has decided he must stop beekeeping.

It seems there should be some solution to this problem. Possibly you have encountered this difficulty in your beekeeping experiences. If so and you have found a solution how about telling us so we can pass it on to our readers?

We Need Better Queens and Intelligent Apiary Management

WHEN WE WALK through the average apiary near the close of a major honey flow, we are likely to see quite a variation in the height of the piles of supers. Occasionally we may see a colony with one super and beside it a colony with four or five supers. The beekeeper's objective is to have the piles of supers alike in height, if possible.

In some instances the variation in the amount of honey colonies store is due to drifting. However, it is obvious that some queens are better than others. Since the queen is said to be the soul of the colony, it is very important that each colony be headed with the best queen available.

There may be differences of opinion as to what constitutes good queens. It would seem that queens worth having are those that produce bees that are reasonably gentle to handle, and are superior in honey-gathering qualities. They should be hardy for wintering and build up rapidly in the spring. It seems desireable also that the bees have the longevity characteristic and that the queens last at least two seasons before they are superseded. We had a queen in one of our apiaries a few years ago that lived four and one-half years. We know, because she was marked with paint on her back, also her wings were clipped. This queen laid prolifically during four years and was eventually superseded. For a time mother and daughter queens laid side by side in the combs.

The colony was operated for extracted honey and showed no signs of swarming during the four and one-half years. However, we supplied comb space as needed, in order to avoid congestion which is the main cause of swarming.

Some perfectly good queens may be said to be poor because they are not given a chance to prove their worth. The owner is at fault in some instances. He does not apply intelligent apiary management and consequently the queen cannot do the work she could do if given the opportunity.

There is a demand for better quality queens and queen breeders are doing their best to meet this demand. Some commercial honey producers are attempting to rear their own queens. However, such work involves time, labor, and skill, also some extra equipment.

We know some beekeepers who have what they consider good strains of bees. They do not pay much attention to requeening regularly or periodically. They depend on the supersedure method of producing new queens. They replace any queens that show signs of failing.

A series of articles on "Better Queens" is being written by John Holzberlein who has had considerable experience in honey production, also in queen rearing. This series beginning in this issue should be of interest to all beekeepers and we await with interest the forthcoming articles.

Plan Your Work, Then Work Your Plan

THE ARTICLE entitled "Good Planning is Good Business", by Charles W. Goudget, appearing on page 20 of this issue should be read carefully. This is the beginning of another year and all beekeepers should make definite plans for the future. If we do not plan intelligently and have an objective we do not reach it but keep going around in circles. The trouble with some beekeepers seems to be that they do not have a definite objective.

There are a number of things that beekeepers should do. For example, they should have their equipment assembled and ready for use when the season opens. If packages are to be ordered, the orders should be placed early to give shippers time to arrange for delivery on schedule time.

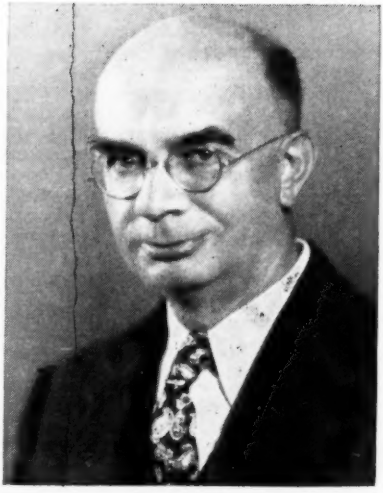
Later on in the season commercial beekeepers with helpers, should plan a definite program for each day. If perchance, the weather is rainy, as is sometimes the case, inside work should be done in order to keep the men profitably occupied. In some instances a commercial beekeeper is glad to have a rainy day come, in order to clean up inside work in the honey house that is bound to accumulate.

The commercial beekeeper who visits out-apiaries and has one or two helpers should be sure to take all the needed equipment or appliances needed. In some instances smokers, hive tools, or perhaps bee veils are left in the apiary house and it is necessary to make a return trip to pick them up. It pays to make a list of items needed, then have one man call them off and another person check to see that they are on the truck. During the spring when the early honey flow is on, an ample amount of supers should be taken along to be used as needed. There is no sense in driving to an out-apiary with a partial load of supers. The supers that are not needed at that time should be piled up, mouse-proof, at the side of the yard, in order to have them on hand a little later on when needed.

It costs money to operate trucks, at least eight or ten cents a mile, so it is necessary to curtail on expenses as much as possible in order to increase the margin of profit at the end of the season. And so, the slogan, "Plan your work, then work your plan", is a good one to keep in mind, especially in beekeeping.

NEWS

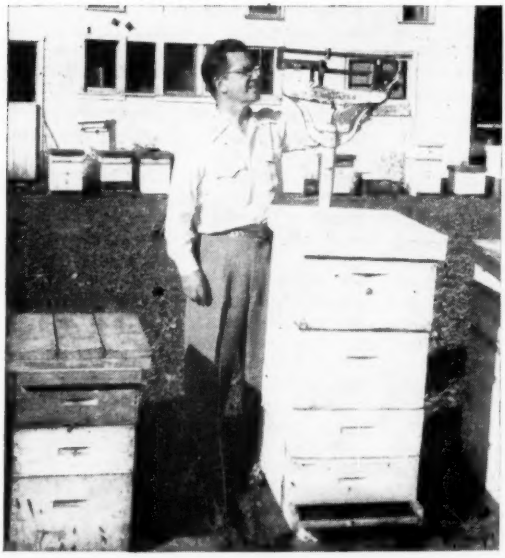
In the accompanying photo you see 16-year-old Alice Fair of North Ridgeville, Ohio, Ohio's Honey Queen for 1957. Alice was selected Queen by beekeepers at their summer meeting held in Columbus. The daughter of Mr. and Mrs. Fred Fair, she has been associated with beekeeping all of her life. She will be one of the representation of queens from many states at the National Federation Meeting in Columbus, Ohio, January 28 through 31.



Harold J. Clay of the United States Department of Agriculture has long been associated with the American beekeeping industry. For many years he edited the U.S.D.A. Honey Market Report, giving crop conditions and honey price. Later in the Production and Marketing Administration he helped the industry with its problems of supply of vital materials during the war years. With the coming of price support for honey he administered .this .program first under the P.M.A. and now in the sugar division. Meet Harold at the National Meeting in Columbus, January 28th.

REEL

This is a son of M. V. Smith of the Apiculture Department, Ontario Agriculture College, Guelph, Ontario. Mr. Smith has done some valuable work on royal jelly, in fact, his article "Some Facts about Royal Jelly Production," appeared in the December 1954 issue of Gleanings. Aparently the son is following in his father's footsteps.



Harry Vandenberg of La Grange, Ohio, president of the Ohio Beekeepers' Association observes the weight of his scale hive. Harry has long been an enthusiastic supporter of youthful beekeepers. This past year he and the other members of the Lorain County Beekeepers' Association established a 4-H Beekeeping Project. This is certainly a step to be proud of and one that should be taken by all County Beekeepers' Associations. How about your County Association? There is no more rewarding work than teaching youngsters.

Behind the Scenes at the Texas Beekeepers' Association Meeting

as reported by A. B. KENNERLY, College Station, Texas

ONE OF THE best stories coming out of the annual meeting at College Station, November 11 and 12 of the Texas Beekeepers' Association was told by E. B. Ault. He was serving as chairman of a panel discussion on the production and sale of royal jelly.

Two women visited Ault's apiary to buy honey. One of them asked for a 10-pound can. "My husband is sick and the doctor has suggested he eat some honey," she said. Then turning to her friend, she said, "I'll have to hide this big can of honey from the children, else they will eat it all up."

Ault, with a delayed-action thought on what the lady had said, went out to the car before they drove off. "Did I understand you to say you were going to hide the honey from the children?" he asked.

"Yes," the lady replied. "They would eat it up from my husband."

"Then I suggest," Ault said, "that you just let the old man go and try to save the children."

The royal jelly panel gave considerable time to discussion of the problems involved in its promotion and sale. Ault has been active in promoting its use for several years. It takes the equivalent of 125 queen cells to produce an ounce of royal jelly, Ault explained to the audience, and the price received for it should be in line with the work and expense involved. He seeks a price up to $20 an ounce for his own product.

Roy Weaver, Sr., of Navasota, serving on the panel, voiced his opinion. "The best use I have found for royal jelly is to raise queens. But selling royal jelly for as little as $12.50 an ounce is like selling 'four-bit' queens," he continued. "It requires bees to produce royal jelly, and that takes our capital; it takes labor, and that's expensive; it takes know-how, and we should be paid for it; royal jelly should not be given away."

Weaver recommended that more research be applied to the uses of royal jelly to provide factual information in promoting the product.

President James R. Stroope of Caddo Mills, in opening the 76th annual meeting of the organization, appealed to the association to approve the automatic check-off plan for advertising and promotion of the sale of honey. "It will take only one cent a can (60-pound) as the producer's share, and one cent a can as the packer's share," he asserted. "With a provision for refunding the money upon written request from any beekeeper, those who do not care to share in this expense would not be obligated to take part."

A second provision would require that all money collected be used solely for the promotion and advertising of honey. This would eliminate the possibility of any of this money being used for research, and the reasoning was later brought to light when the recommendations were brought to the meeting in resolutions. Floor discussion revealed that since the highest prices are received for table honey, and little research is needed in this phase of production, each dollar would boost the price higher if spent on promotion. A further discussion revealed that the State and Federal governments appropriate money for research, but the cost of advertising must be borne by the honey producers and the honey trade.

Reports from various associations of Texas revealed one unusual organization known as South Texas Beekeeping Hobbyists. "The reason this name was selected," explained Dr. W. W. Maxwell of San Antonio, "was to increase membership. So many more people will attend if they feel that they are not

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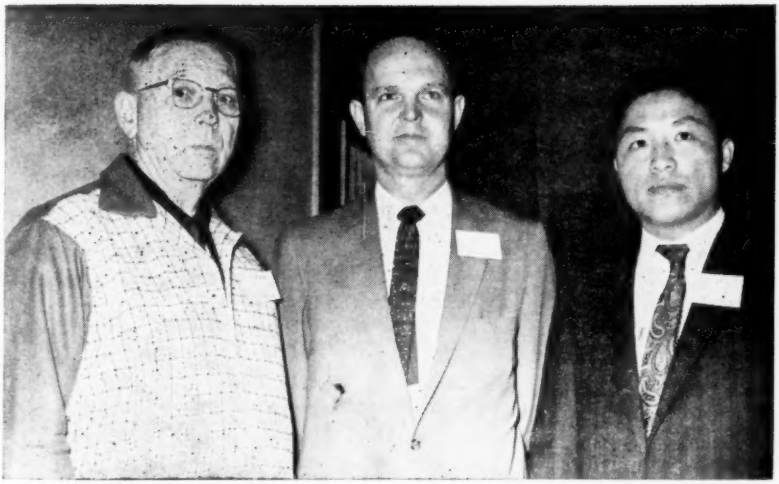


Those attending the meeting of beekeepers came from near and far. (Left) Dr. W. W. Maxwell of San Antonio reported on his local association; C. C. Dadant of Hamilton, Ill., brought information on hybrid queens; and Dr. Young Tai Cho of Korea told about beekeeping in that country.

lost among professionals. The name itself implies that all are amateurs, although many professionals do attend."

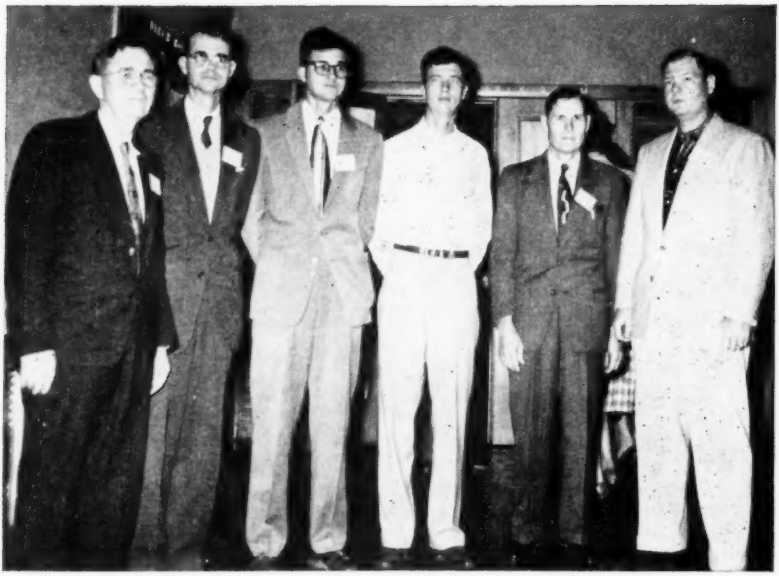
It's not likely that competition from other pollinators will interfere with bees in pollination according to information brought to the association meeting by Walter Barth, general manager of The A. I. Root Company of Texas. Nature has taken care of pollinating needs of each plant and those plants that depend on bees cannot be efficiently pollinated from other sources.

Further information on pollinating research was presented by A. H. Alex of Texas A. & M. College when he showed that a Methley plum tree without bees produced 96 plums, but with bees, a similar size Methley plum tree produced 603 plums.

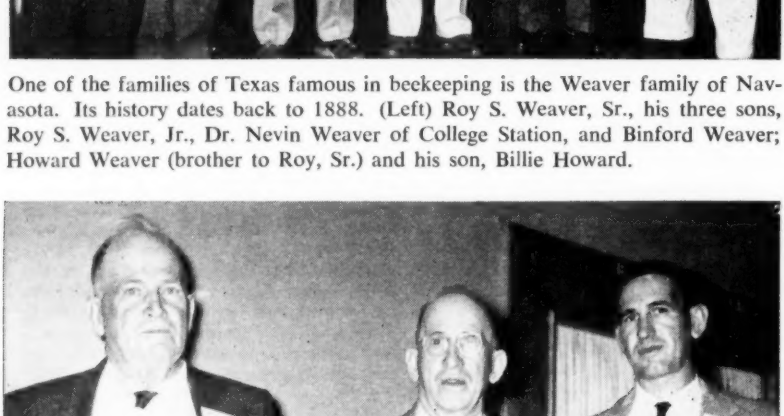
Similar research showed that average yields of cucumbers could be increased 41 per cent by pollination with bees in open plots. And cantaloupes showed an amazing jump of more than 1,500 per cent in open field plots against cages without bees. In fact, one cage showed no production while yield in open plot with bees showed production at the rate of 63,200 pounds of cantaloupes an acre. Another bit of research took place in the Lower Rio Grande Valley. "One cantaloupe grower said he didn't need bees for pollination," Alex told the audience. "He had one field of 20 acres and another of 25 acres and boasted that there were no colonies of bees in either field. Yet, when counts were made of bees that visited the flowers in a 30-minute period it was learned that about as many were visiting these flowers as in the fields where bees were located. It was discovered that bees were coming from a yard one-half mile down the road."

An interesting sidelight was learned through this research. Bees practically stopped working the blossoms after 4:00 P.M. "Growers who sprayed their cantaloupes after this hour killed very few bees," Alex pointed out. "The flowers wilted before the next day when bees were again in the field with the result that little damage was done to the bees. It's a short-sighted policy for growers to spray during hours that will result in a reduction of their crop."

Other needed research in beekeeping lies in the agricultural engineering field, Dr. Nevin Weaver of Texas A. & M. College told the beekeepers. "Labor-saving devices for the beekeeper are needed," he explained. "Also needed is research on improved methods of



One of the families of Texas famous in beekeeping is the Weaver family of Navasota. Its history dates back to 1888. (Left) Roy S. Weaver, Sr., his three sons, Roy S. Weaver, Jr., Dr. Nevin Weaver of College Station, and Binford Weaver; Howard Weaver (brother to Roy, Sr.) and his son, Billie Howard.



Another family famous in the beekeeping history of Texas is the Victor family of Uvalde County. (Left) W. O. Victor, H. Allen Victor and son, Allen G. Victor.

raising queens. Too many queens with good breeding back of them are inefficient because they have not been reared to the best advantage. For example, queen larvae fed poorly the first two days or the last day will result in poor queens."

A guessing contest on the number of bees in an observation hive in the association's exhibit at the State Fair of Texas added much interest to the exhibit. "The observation hive attracted more people than any other exhibit in the building," observed Erwin Glew, who reported the success of the exhibit. Cards called for comments on honey in addition to a guess on the number of bees. One comment: "Best stuff for hot biscuits ever invented." Sixteen beekeepers devoted a day each to manning the booth.

C. S. Engle, Sr., a beekeeper from Wolfe City who recently gave up migratory beekeeping, brought a chuckle from the audience when he pointed to himself as a horrible example of what would happen to the beekeeper who insists on staying in the migratory business. Others on the panel discussing costs and methods agreed that probably most others would prefer one-location beekeeping if they could ever find a suitable place to stop.

A beekeeper in Southwest Texas, E. L. Evans, has a partner in North Dakota and colonies of bees are shuttled back and forth between them. The truck driver, experienced in hauling bees, is paid a percentage of the honey crop for his services. In this way, neither of the beekeepers finds it necessary to leave home. One loads the truck and the other unloads it at the destination. The various operations are standardized to save time and labor.

"Donations of beekeeping supplies from Texas to Koreans helped our people to rehabilitate their beekeeping activities following the Korean war," Dr. Cho of Korea told the Texas beekeepers. "Much nectar-yielding brush was killed during the war but large acreages of lespedeza and some black locust are producing a surplus of 60 pounds per colony."

Some migratory beekeeping is practiced in Korea. Like other parts of the world, there's a scramble for choice locations. "Our beekeepers sometimes move their colones to a choice location a month ahead of the flow to hold it," Dr. Cho explained. "And they just sit there and feed the bees until the flow begins."

Texas beekeepers were ready to agree Korean beekeepers have their problems, too.

I Did Not Run from the Bees

H. H. ROOT

YEARS AGO a Montana beekeeper, a minister by the way, took me to one of his several outyards of bees. On reaching the yard he wanted to examine one colony for some reason and as I had no veil, I stood back perhaps 10 feet. The bees did not bother me but, to my horror, I saw mosquitoes about three-quarters of an inch long, settling on my arms. They knew how to bite, too, and before many seconds had passed, I could feel them all over my face, ears, and neck. Remembering how one mosquito had often kept me awake at night, I quickly got in a panic. I knew I had been awakened by a vicious bite causing a swelling on my arm or leg, and so I broke into a run for the closed car several hundred feet away. Safely inside, I began to exterminate those vicious insects whose bites drew blood. In a few minutes my shirt collar was more red than white. I wondered if a doctor could ever bring me through.

When Mr. Petzold came back, he observed with a chuckle, that he wished he had had a movie camera,—that he would have dearly loved to take a picture of a Root in rapid transit, pursued by bees.

"Bees", I said, "who said anything about bees?" "Bees didn't chase me, they were mosquitoes and giant ones at that. I'll be poisoned to death, sure".

For the first time, Mr. Petzold noticed my sleeves and collar. He said he did not think the mosquitoes would poison me. To my surprise, I suffered no bad effects and was able to appear on the program of a Montana meeting the next day.

Jungle Invasion

E. D. FOX, Washington 22, D. C.

MY FIRST real glimpse into the bee world was taken while vacationing in North Carolina some years ago. A relative kept bees and I watched with Ted, my husband, from a safe distance while some frames of honey were being removed from the hives.

With our first taste of the delicious sourwood honey, Ted vowed to start hives of his own. I had some misgivings for I was and still am, a timid soul, afraid of bees and what have you.

Ted knew next to nothing about bees and my knowledge would score the absolute nothing. In fact, I was fast approaching the age life is supposed to begin when I actually saw a swarm of bees for the first time.

It must have been beginners' luck for the bees buzzed in for a landing on our neighbor's forsythia bush. Our friendly neighbor quite readily relinquished ownership and it was a small matter for an accommodating beekeeper nearby to hive the swarm for us. I recall his kindly gesture of presenting us the hive body as a gift.

Through ignorance in feeding the bees, this swarm was lost but eventually with package bees and some kind of miracle we did manage to get a few hives started.

I gathered every authoritative article I could find on beekeeping. The purchase of ABC & ZYZ of Bee Culture was money well spent for this book is still frequently consulted after more than five years with the bees.

Ted and I took a short course in beekeeping from George Abrams, Apiculturist at Maryland University. He is a good one.

It was during the time we were attending Professor Abrams' lectures that I had my second meeting with a swarm of bees.

On one side of our lonesome acre there are about three acres of neglected land with a big old house in the middle. At times the house is rented but the land is cleared just enough to allow occupants to move in and out of the place.

I often refer to this place as the "Jungle." For years we have been waging a losing battle against the poison ivy and thick honeysuckle growth which creeps up all over our fence and entwines into our shrubbery and trees.

One morning, the lady who was in the house at the time told me she had seen a swarm of bees in a tree and she thought it was low enough for Ted to reach from a step ladder. I took a look through field glasses and located the bees. The lady was right, they were not too high, but good grief, one would need a bolo knife to cut through the tangled growth.

In spite of this the sudden urge came over me to capture that swarm all by myself. First I had a talk with myself. "Old girl," I said, "you have flipped." "Remember the big rat that came out of that jungle a few weeks ago?" "Good thing Sparky (our friend's terrier) was on hand to dispose of it."

I thought of the snake Ted had to shoot because it slithered off a branch of a huge silver maple tree into the attic of the old house. He got it with a well placed shot on it's return trip.

There were visions of spiders and unknown creatures but my fears were overcome by my strong desire to get those bees. Fools rush in, I suppose.

Off I went laden with step ladder, saw, and hoe. It was a good thing no one saw the way I was dressed. I believe I had on three layers of outer clothing. I also wore heavy socks, high top shoes and a bee veil. I was more anxious to protect myself from the jungle than from the bees.

I dragged the ladder, chopped with the hoe, and sawed a few branches

here and there. It was slow progress but I finally did reach the tree where the bees clustered and managed to get the ladder set firmly against the tree trunk.

I started to saw the branch off as gently as possible and it was at that moment it dawned on me that I'd never be able to carry that heavily laden branch back to our bee yard all by myself.

Back I went to fetch a hive body and returned huffing and puffing, uncomfortable, in my state of overdress. Laboriously I placed the hive body as securely as possible under the tree. I figured Ted could carry the hive with my prize within back to the bee yard when he returned from work.

Then I took a deep breath and began to saw again. The branch was nearly sawed in two. I had a good grip on it with one hand but I found I needed two and more strength than I possessed. When the branch severed I could not hold it and it just slid down away from me. Fortunately the honeysuckle was a blessing in disguise because the thick growth held the branch enough for it to move slowly without stirring the bees.

With a deep sigh of relief and an inner feeling of satisfaction I saw the bees had begun to move slowly into the hive, then more quickly but it was nothing I had done. The low rumble of thunder warned me a storm was coming and the bees were just sensible enough to get in out of the rain which was already gently falling.

A noise in the woods startled me until I looked around and saw Ted grinning at me. You see, I had phoned him before I made my trek into the jungle. In the back of my mind I did not believe I really could handle the job all by myself. He had come home from work early to rescue me and was as surprised as I was that the job was practically done.

We had no trouble taking the bees home and though I would not attempt this same task again I am glad I tried it once. We both got a big bang out of telling our little adventure story to other would-be beekeepers later at the college lecture.

Lunch in a Country Hotel

by GEORGE H. REA, Reynoldsville, Pa.

COUNTY AGENT Ted Clausen and I were making a survey of beekeeping and getting acquainted with the beekeepers of Schenectady County, New York, in advance of calling a meeting to consider organizing a county association. We stopped for lunch in a little old-fashioned country hotel. When the dinner bell rang we, with several other men, gathered around the big country family-style dining table where all ate together.

These were the early days of oleomargerine when it had an unsavory reputation among the farmers of this country. When we saw the customary card on the wall announcing the unwelcome fact that this butter substitute was being served in this dining room, uncomplimentary remarks and gloomy countenances marked the occasion. One fellow walked out as he remarked, "Danged if I'm not going where I can have some butter." My funnybone was tickled and brought forth this little ditty: "Oh, margerine, sweet margerine, to thee I hymn this little verse; no matter what may come or what may go, I'll take thee for butter or for worse." Faces brightened, wisecracks passed around, and everybody ate oleo.

I am sure that occasion had nothing to do with it, but in Schenectady County we organized a progressive beekeepers' association such as can rarely be found anywhere. Under more than 30 years of able leadership it is still going strong. Over a period of years an annual program of requeening, better wintering, swarm control, transferring from box to modern hives, extracting, grading, and marketing honey, and many other demonstrated subjects two or three times each season has tended to keep up the interest and the paid-up membership.

Let's Talk about Honey Plants

DR. HARVEY B. LOVELL
Louisville, Ky.

Florida. Mr. Millard Coggshall, Minneola, writes me as follows about honey plants in the Everglades of southern Florida: "There is a species of boneset growing in the wet, unreclaimed Everglades which produces a light-colored, fairly well-flavored honey during the latter part of July and August. The honey is inclined to be rather thin, and may ferment in the combs, but whether this is due to the nature of the honey or the moist climate I do not know."

Wild Sunflower. Mr. Coggshall continues "With the help of Ralph Wadlow of Palmdale—a good observer in a very interesting and unusual beekeeping area—I located some bees in a stand of wild sunflower in the Everglades. Their bloom looks like a big blackeyed Susan of New York State, but the plants grow up to 10 feet tall. Incidentally, the wild sunflower is also well distributed along the St. John Flats, where it is highly regarded as a good wildlife food as well as honey plant. Bloom in the Everglades occurs mainly in October, although it may begin in late September. The honey is as golden yellow as the blossoms, and good tasting, but this year we made only about 20 pounds surplus per colony. This may be due to the fact that there were almost daily rains during the blooming period. Mr. Wadlow reports the amount and range of the wild sunflower in the glades is continually shrinking, due to increasing cultivation and cattle grazing."

Thistle Honey. Wendell Roberts of Fairview, Montana, wrote me some time ago that he makes 25 to 50 pound average from Canada thistle. The honey is white and well-flavored, a very desirable honey. Unfortunately, this thistle is a bad weed in fields and pastures and has been pretty well eliminated in many areas. The little honey now produced is generally mixed with alfalfa and clover with both of which it mixes well. On my western trip this past summer, I was surprised to find Canada thistle growing farther south than I had expected.

Sunflower (Helianthus sp.)

A thistle honey is also made in southern Florida from a related species, Nuttall's thistle (**Cirsium nuttallii**). When I attended the state fair at Tampa in January several years ago, I found one beekeeper with a fine display of this thistle honey, but I have been unable to obtain any since. Florida beekeepers write that they now rarely obtain any of this honey in pure, recognizable form because of weed sprays and other agricultural practices. Anyone having any thistle honey please write me about it. To anyone sending me a small sample, I shall be happy to present a copy of my "Honey Plants Manual" in exchange.

There seems to be considerable interest over the nature of the flowers of the cultivated tomato. Mr. C. C. King, Agricultural Technician at the Experiment Station at Wooster, Ohio, writes to ask me if there are any nectaries in the flowers of the tomato. He adds, "I

(Continued on page 63)

Live and Learn

by Propolis Pete

HERE WE GO again with a new year. This old hunk of stardust has made another trip around the circuit and now we are right back where we started, give or take a couple of trillion miles. But what the heck — Happy New Year everybody! Before you know it spring will be here and we will be out in the bee yard wondering what the critters will do next.

And they do do the darndest things. Here's something that happened to me only a few days ago. I packed my bees around the end of October, and somehow or other the inner cover on one of the colonies developed a crack where the inner cover rested on the top brood body. I don't know how. It wasn't that way when I packed. Nevertheless it was there when this thing happened, and that is what counts. There was a gap there wide enough for bees to walk through two abreast, and brother were they doing it! It was a glum day, threatening to rain, and just cold enough so that one would think that the bees were loosely clustered. I thought that I heard bees, although I couldn't believe it possible, so I went up to see what was going on.

Here was this colony livelier than a sailor's boarding house, with bees pouring in and out of that crack for all that they were worth. Says I to myself, "That's robbing as sure as shooting", but where were the robbers coming from? All of the other colonies were quiet. They seemed to be doing just what they should be doing, just bunching up together a little. Now and then one would come to the entrance, stick her nose out for a sniff, and then duck back where she belonged.

If those robbers were coming from a wild colony in the woods, it must be awfully close. With the thermometer reading in the low 40's, they couldn't be flying very far. Then it dawned on me. That dumfool colony was robbing itself. To prove it, I sprinkled a little soy flour that I had left over from last spring, on some of the bees coming out of the crack, and sure enough they were going right back to their own entrance and putting the honey back where they were taking it from. Can you tie that?

I always have a wad of steel wool in my tool locker behind the row of hives, so I took some of that and stuffed it in the crack. That ended the robbing. Steel wool is the handiest thing to have around for such emergencies. It keeps the robbers out, and the inmates in, and in a very short while the house bees gum it so full of propolis that it is a very effective seal, until you can get around to making proper repairs.

There is another annual puzzle that has me stopped. Every year, long after the season is over and the bees are quiet, we get a few nice warm days. This year, on Thanksgiving Day, it was a near record breaker for temperature. The bees were flying like it was the middle of June, and I sat on my usual bench to watch. Once more I saw them bringing in that light yellow pollen that they get every year after the season is over, and I still don't know what it is. It must be close, because even though the bees were flying well, they couldn't get too far away. We had a hard freeze in the middle of November, and there is absolutely nothing that I can find that is blooming. Even the mums are brown and dried.

In other years there has been a yellow flower on a weed that looks something like wild radish that blooms late. It can stand a pretty hard frost, but generally peters out when freezing weather comes in. That hard freeze that we had surely must have killed it, because it is gone from the usual fields where it has grown in the past. It could be that a little patch escaped the freeze, but in all the years that I have noticed this, I have never seen the bees working on it.

It doesn't make very much difference, but it is baffling to have such a silly thing frustrate you. The bees don't get enough to make any difference at all, but just the same I'd like to know what it is.

A Talk to Beekeepers

M. J. Deyell

M. J. Deyell

"The richest man is the one who gives away the most." — Anonymous

TO MAKE the foregoing apply to beekeeping, the word "beekeeper" could be substituted for the word "man".

Some make New Year's resolutions which may or may not be kept. If we as beekeepers would resolve during the coming year, to share our beekeeping experience with young beekeepers, especially 4-H Club youngsters, F.F.A. boys, and inexperienced beekeepers who need help, we would likely find ourselves increasing in riches.

There Is a Need for More Young Beekeepers

When you attend the next bee meeting, just glance over the faces of those in the audience and you will likely see middle-aged and elderly folk and comparatively few young people.

During a recent bee meeting, one of the speakers talked on his work among 4-H Clubs which are interested in beekeeping, he said that comparatively few experienced beekeepers were willing to share their time and experience with the 4-H young people who are interested in bees. This is unfortunate. We know, however, that there are quite a number of beekeepers over the country who are actually helping young people to learn more about beekeeping and this is commendable.

An Experience I Had

I have a small honey-extracting equipment in the basement of my home and during the years I have done some extracting for those who do not have honey extractors. Naturally this is quite a nuisance, especially when one is busy. (If and when such extracting is done, one should make sure that the apiary from which the supers of honey are taken, has been inspected and found free from disease.)

I recall a farmer and his 15-year-old son who brought a few supers to my home to be extracted. They knew nothing about how honey is thrown out of the combs and this was a revelation to them. As I uncapped the combs the boy became very much interested. I asked him if he would like to try uncapping some combs. You should have seen the gleam in his eye as he actually uncapped some combs of honey that his bees had gathered. The father looked on proudly.

I haven't kept track of where the boy is at present but it is possible that he may now be in the beekeeping business, possibly a commercial honey producer.

Another Year

Well, here we are on the threshold of 1958. We do not know what is ahead of us and it is perhaps just as well we don't know. We live one day at a time. A part of my philosophy is to make each day an adventure in living. I never know what new experience awaits me.

This same philosophy, if I may call it such, may be applied to beekeeping. We may look forward to a honey crop and be disappointed. On the other hand, we may not look for a large crop and perhaps secure an unusually good one. This past season some of you beginner beekeepers were disappointed in not securing a larger crop. It is safe to say that some of you were agreeably surprised with the amount of surplus honey you secured.

My bees did fairly well this past season, about a 50-pound average which is quite good for this section of Ohio. However, the bees in this area are well

stocked with honey for winter and early spring stores. I predict that there may be a considerable amount of swarming next spring, about fruit bloom time, especially in areas where bees have their food chambers crammed full of honey. Some beginners and possibly experienced beekeepers will fail to put on supers in time to avoid congestion in the hives and the first thing they know, swarms will be hanging on the old crabapple tree.

The Average Beekeeper Fails to Realize the Importance of Bees

It is not so many years ago that . failed to comprehend the importance of the beekeeping industry to agriculture. Many people engaged in agriculture are just now beginning to realize the importance of honeybees.

I quote from Bulletin E-584 entitled "The Dependence of Agriculture on the Beekeeping Industry":

"The principal role of the honeybee is not in the production of honey and beeswax, as is commonly supposed but in the pollination of agricultural crops for the production of seed and fruit. Without insects to effect pollination, many species of plants will not set seed or produce fruit no matter how well they are cultivated, fertilized and protected from diseases and pests.

"The fertilization of flowers is so imperative that beekeeping must be carried on to maintain a profitable agriculture. Owing to conditions brought about by the recent war, of which increased acreage of insect pollination seed crop is but one, safeguarding the beekeeping industry has become doubly urgent. Beekeeping can be mastered only through years of experience. It cannot be learned as a trade is learned and there is no floating population of persons seeking employment in beekeeping. The fact that bees have a propensity for stinging discourages most people from keeping them and only certain individuals possess the proper temperament to be beekeepers. For these reasons every experienced beekeeper should be encouraged to continue with his bees. It may even become necessary to subsidize the keeping of bees since there is no practical substitute for honeybees in the transfer of pollen from flower to flower and from plant to plant."

It would be well for beekeepers to secure this bulletin E-584 put out by the United States Department of Agriculture, Bureau of Entomology and Plant Quarantine. It is a gold mine of information on the importance of bees to our agriculture.

Some people who start beekeeping as a sideline or hobby develop their hobby into a vocation. This is as it should be. Some who become interested in bees imagine that they can launch out into the business on a large scale and be successful. Beekeeping is not learned in a day or a year. It is entirely possible, however, to acquire within a reasonable length of time a working knowledge of the principles that underlie success in beekeeping and then to apply these principles to the business in order to be successful.

The Best Way to Learn Beekeeping

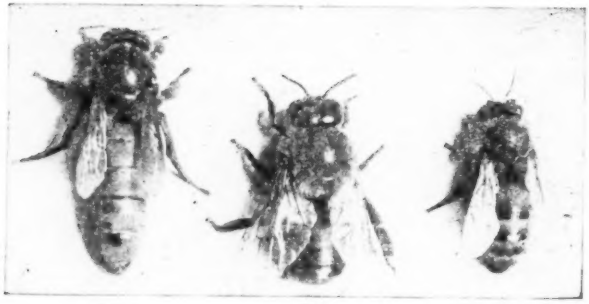
Obviously, one should read reliable bee books and bee journals. It is also well to associate with beekeepers whenever possible, attend beekeepers' meetings, county, state and national—as often as possible—listen to talks being given and talk with beekeepers. One idea picked up at a meeting may be worth many times the cost of attending that meeting.

If you do not understand all that speakers are attempting to say, do not hesitate to ask questions. Quite often speakers talk over the heads of beginners. This is unfortunate. Those appearing on programs should remember that there are beginners in the audience who do not understand the ordinary terminology applied to bees and beekeeping practices. For example, when a speaker mentions "foundation", he should always say " comb foundation". If he doesn't, the beginner may think that foundation is something to put underneath the hive to hold it up.

I should like to suggest to beginners that they pay some attention to what is said by those who have made good in beekeeping and especially those who make their living from bees. Successful commercial beekeepers who depend wholly on bees for a livelihood can usually be relied upon for disseminating sound beekeeping information.

Those Who Have Bees

I am assuming that you left an ample amount of stores for winter and early



Queen Drone Worker

spring bee food. If you didn't, some of your colonies may pass out before spring comes. Apparently it takes some beekeepers a long time to learn that colonies of bees do need ample stores for winter. During the coldest months colonies may not consume an abnormal amount of food. Our scale hive consumes between four and five pounds each month during December, January, and February. During March the consumption increases, because brood rearing starts and the young brood requires constant feeding.

If some colonies are a little light on food, it should be possible to feed some combs of honey, if available, especially if the weather gets mild enough for bees to break their winter clusters. Combs of honey may be exchanged for empty combs.

Snow May Cover the Hives

Snow does more good than harm because it protects the bees from the cold winter winds. So long as the entrances of hives do not become clogged with dead bees or ice, the bees will not smother. The air filters through the snow.

The majority of beekeepers use a middle front entrance made by boring a three-quarter inch hole in the middle of the food chamber or upper brood chamber. This permits bees to get out for a flight when the weather is warm enough. It also permits bees to expell excess moisture that may accumulate during cold weather. This hole or middle entrance cannot become clogged with dead bees, whereas hives with only a small lower entrance may become clogged with ice or dead bees. Those who do not have middle or top entrances in their hives should examine bottom entrances, especially after a sleet storm.

And so, if your bees are well supplied with food and have proper ventilation there is nothing you can do, during the cold winter months, to improve their condition.

Those Who Plan to Begin Beekeeping

What has been said about reading good books and bee journals, also attending bee meetings, applies also to those about to begin keeping bees. During the winter and early spring months beginners should acquire all the information possible. However, the way to learn to handle bees is to actually handle them and when the beginner gets his bees it is then possible to put some of the theories acquired by reading, into actual practice. Theory and practice go hand in hand in attaining success. We could never learn to drive an automobile simply by reading instructions on how to drive it. We must get into the driver's seat and learn, some times the hard way, just how to become a good driver.

If the beginner expects to start with packages of bees, as is customary nowadays, it is well to send for a bee supply catalog in order that he may learn about the different parts of a bee hive and the necessary appliances commonly used for handling bees. It is necessary also to acquire some information on the proper method of putting packages of bees into hives after the pack-

(Continued on page 59)

BEWARE COLD-WEATHER QUEENS

WAYNE KELLER, Oshkosh, Nebraska

IN THIS LOCALITY we usually have a season of unusually warm weather in late March or April when it seems spring is here to stay. Colonies appear strong, and we begin to think of exceptional seasons when bees may swarm in May. Dividing is a strong temptation. I have established nucs with a full comb of honey at this time. Coming back in a month's time, one finds the honey used and a few bees chilling to death about a small queen that may or may not yet be mated.

One spring as I was beginning, I heard of the Alexander plan of dividing on one stand. I made an excluder, spacing the wires by anchoring them with bee-hive wire. On May 8 the two stories were divided. Coming back the next weekend, I made separate colonies, using combs on which were well-started queen cells. (I have since learned that cells will be riper if one waits till the tenth day, either from a graft or from a division. Cold weather will delay hatching of queens till the 11th day. An older graft will hatch early.)

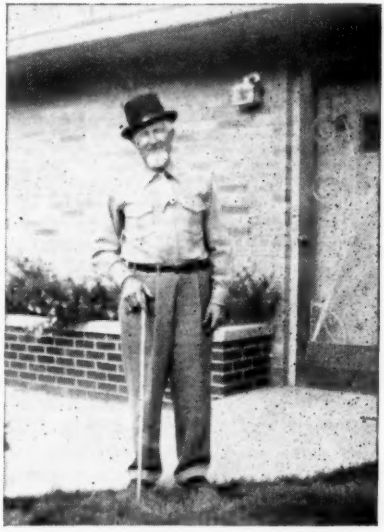
One of my divisions did not have its queen mate until she was 15 days old. The weather was unsettled even in late May or early June. These queens did well enough, and did not die too young, that is, in a few weeks as sometimes may happen.

Last season, true to experience, I refrained from the April divisions. However, queens reared were very inferior, and did not have hatching brood before old bees all died, or the queens did, themselves. Later divisions in June made better-living colonies. One might get by with introduced laying queens in the divisions, but there are hardships to be encountered in this as well. It seems unlikely that one could divide here, and not seriously hinder the main hive producing its crop. There is something about early dividing that weakens the hive out of proportion. Any experienced beekeeper has noticed that colonies with good working forces may not starve in a spring when ordinary young colonies must be fed heavily.

My solution to requeening is to rear queens in late summer, before robbing is bad. These will winter well, and build up the following spring. My solution for increase is to set off a small unit at the beginning of the main honey flow. The small field force must have an easy method of supplying the food needs of the large brood. It has the summer warmth to help incubation, and increases so rapidly that it may easily supply its winter food needs by fall.

There is something to be said for dividing swarmers, using the big well-reared queens just hatching. Swarmers are the early-developing colonies. These will get a crop as well as those that develop late. One must, however, be an expert at swarm prevention, if he is to handle bees that develop early.

Brother of the Brush



Guess who? None other than S. J. Watkins, Grand Junction, Colorado, President of American Beekeeping Federation. Unbeknown to Mr. Watkins his wife sent us this picture. It seems he joined the "Brothers of the Brush" to participate in a recent Diamond Jubilee celebration. Do you suppose he will shave off the brush before attending the coming National meeting in Columbus, Ohio? Time will tell. The wife will likely insist on his doing so.

PROGRAM — 15th ANNUAL CONVENTION
American Beekeeping Federation, Inc.
JANUARY 27 — FEBRUARY 1, 1958

S. J. Watkins .....President
Ray R. Reed .....Vice President
Robert Banker .....Secretary-Treasurer

EXECUTIVE COMMITTEE

Harry Rodenburg, Jr. — Lawrence R. Budge
H. R. Swisher — G. C. Walker, Jr.
Wm. W. Wicht
H. A. Schaefer, Past President
Lawrence R. Budge.....Program Chairman

NEIL HOUSE
COLUMBUS, OHIO

Saturday, January 25

10:00 A.M. Executive Committee, American Beekeeping Federation, Inc., S. J. Watkins, Pres.

Monday, January 27

9:00 A.M Advance Registration
9:00 A.M. National Honey Packers and Dealers Assn., Roland Stone, President
9:00 A.M. Apiary Inspectors of America C. D. Floyd, President
9:00 A.M. Board of Directors, American Beekeeping Federation, Inc., S. J. Watkins, Pres.
1:30 P.M. Board of Directors, American Honey Institute — R. F. Remer, Chairman
1:30 P.M. Research Committee, American Beekeeping Federation, Inc. — C. Benson, Chairman
8:00 P.M. Honey Industry Council of America Roland Stone, Chairman
8:00 P.M. Research Committee, American Beekeeping Federation, Inc. C. Benson, Chairman

BEES ACCOMPLISH THROUGH CO-OPERATION SO CAN WE

Tuesday, January 28

8:00 A.M. Registration
9:00 A.M. General Session — Call to Order
Presentation of Colors
Invocation — Rev. Joel Lunsford
Musical Number
9:30 A.M. Address of Welcome — James R. Hay, Director of Agriculture, State of Ohio
Response — Ray R. Reed, Vice President, American Beekeeping Federation, Inc.
10:30 A.M. President's Address — S. J. Watkins, Pres. American Beekeeping Federation, Inc.
10:50 A.M. Keynote Speech — "Industry-Wide Co-operation," Woodrow Miller, Millers Honey Co., Colton, Calif.
Committee Appointments and Announcements
1:30 P.M. "Honey Exhibit at the A.N.U.G.A. in Cologne, Germany" — Marvin Webster, Fruit and Vegetable Division, U. S. Dept. of Agri.
2:15 P.M. "The Check-Off System—a Compliment to the Honey Price Support Program"—A. A. Greenwood, Sugar Division, United States Department of Agriculture
2:40 P.M. The Loan and Purchase Agreement Program for Honey. Harold J. Clay, Sugar Division, United States Department of Agri.
3:00 P.M. Royal Jelly from the Producer's Viewpoint — Leslie Little, Little's Apiaries, Shelbyville, Tenn.
4:30 P.M. Bee Industries Association Meeting Robert H. Dadant, President
8:00 P.M. "500" Club meeting — Henry Piechowski, Chairman
8:00 P.M. Hobbyist's Meeting — A. R. Dean, Chairman.
Suggestive Subjects to be Discussed:
Handling of Hybrid Queens
Spray Poison
Royal Jelly and it's Possibilities

BEES ACCOMPLISH THROUGH CO-OPERATION SO CAN WE

Wednesday, January 29

7:30 A.M. State Membership Chairman Breakfast Meeting
9:00 A.M. Research Program — Clarence Benson, Chairman, Research Committee in Charge (Two Speakers to be announced)
10:30 A.M. "Allergies Due to Bee Stings" — Dr. Gordon F. Townsend, Professor of Apiculture, Ontario Agricultural College, Guelph, Ontario
11:15 A.M. "The Composition of American Honey —A Progress Report" — Dr. J. W. White, Agricultural Research Service, Eastern Regional Research Lab., Philadelphia, Pa.
11:45 A.M. Reading of Resolutions — Newman I. Lyle Chairman, Resolution Committee
Distribution of Financial Statement
1:30 P.M. The Dairy Farmer Sells His Product, Myron W. Clark, Membership Director, American Dairy Association
2:15 P.M. Panel Discussion — "Check Off Plan," Ken Bradshaw, Moderator — Panel Members, R. F. Remer, Roland Stone, Walter Sundberg, Charlie G. Miller
4:00 P.M. Plants Suitable to Retain Highway and Railroad Banks — Edwin J. Anderson, Pennsylvania State Uniyersity
4:30 P.M. Honey and Pollen Plants — Harvey B. Lovell, Louisville, Ky.
8:00 P.M. Spray Problem Committee Meeting H. L. Maxwell, Chairman
8:00 P.M. State Honey Queen Chairman Meeting Henry Piechowski, Chairman
8:00 P.M. Meeting of Teachers, Extension Workers, and Research Workers at the State Level

BEES ACCOMPLISH THROUGH CO-OPERATION SO CAN WE

Thursday, January 30

9:00 A.M. Summary, Our 1957 Marketing Committee Program, C. D. Floyd Marketing Committee Chairman
9:10 A.M. Merchandising Methods Applicable to Honey Marketing. George Goldsborough, Market Development Branch, United States Department of Agriculture
9:40 A.M. Panel Discussion — "Our Honey Market" — C. D. Floyd, Moderator — Panel Members: R. B. Willson, Export Market, R. F. Remer, Coop Marketing, Roland Stone, Independent Packer, Irvin Stoller, Producer-Packer
10:30 A.M. The American Honey Institute Promotes Honey — Mrs. Harriett M. Grace, Director, American Honey Institute, Madison, Wis.
10:55 A.M. Honey Marketing Needs Good Merchandising — Harold Driscal, Wallace Lindemann, Inc., Grand Rapids, Mich.
11:30 A.M. A Proposed Marketing Program for 1958 — C. D. Floyd, Marketing Committee Chairman
1:30 P.M. Business Meeting
Minutes of the Long Beach Meeting
Financial Report
Committee Reports
Election of Officers
7:30 P.M. Banquet — Dr. E. J. Dyce, Toastmaster Cornell Univ., Ithaca, N. Y.

Friday, January 31

9:00 A.M. Board of Direc ors Meeting—A.B.F., Inc.
2:00 P.M. Honey Industry Council of America
8:00 P.M. Executive Committee—A.B.F., Inc.

NOTE: Advance registrations should be accompanied by check or money order instead of cash.

BEES ACCOMPLISH THROUGH CO-OPERATION SO CAN WE

American Beekeeping Federation Auxiliary at Neil House, Columbus, O. January 28, Through January 30, 1958

PROGRAM

Tuesday, January 28, 1958

1:00 P.M. Neil House Tea Room
Greetings from the Ohio Auxiliary, Mrs. Alan Root, Medina, Ohio

2:00 P.M.—to 4:00 P.M. Tea and Tour of Governor's Mansion

Wednesday, January 29, 1958

10:00 A.M. Ladies Tour—"Behind the Scenes at Lazarus Department Store"

Thursday, January 30, 1958

11:00 A.M. Luncheon, Junior Banquet Room
Invocation: Mrs. Winston Dunham, Vice President, Ohio Auxiliary, Columbus, Ohio
Introductions: Mrs. Newman Lyle, President A.B.F. Auxiliary, Sheldon, Iowa
Welcome: Mrs. Emerson Long, President, Ohio Auxiliary, St. Paris, Ohio
Response: Mrs. Thelma Littlefied, Vice-President, A.B.F. Auxiliary, Pasadena, Calif.
Address: "The Institute and the Auxiliary" Mrs. Harriet M. Grace, Director, A.H.I., Madison, Wis.
Talk: "Choosing a Honey Queen the 4-H Way" Mrs. Ester Piechowski, Red Granite, Wis.
Introduction of: Honey Queens
Business Meeting
Secretaries Report
Treasurers Report
Roll Call by States
Committee Reports:
Marketing—Mrs. Martha Soder, Stratford, Ia.
Pins—Mrs. Thelma Littlefield, Pasadena, Cal.
Auditing
Old Business
Election: Mrs. Henry Schaefer, Chairman, Nominating Committee

BEES ACCOMPLISH THROUGH CO-OPERATION SO CAN WE

COLUMBUS — SIDELIGHTS for the CONVENTION

OHIO'S Ohio State University with its enrollment of over 20,000, strides the Olentangy River and dominates the life of North Columbus. No Ohio citizen, if he or she be a highschool graduate, is turned away. A choice of ten colleges are divided into 95 departments and employ a faculty of 2,000. In addition to Ohio State; Capitol University, Franklin University, and St. Mary of the Springs have their home in Columbus. Columbus is also the site of The Battle Memorial Institute serving mankind through the making of discoveries and inventions. The Columbus gallery of fine arts, located on East Broad Street at Washington Street, dates back over 70 years and is visited by over 60,000 persons annually. Inquire at registration desk for literature on interesting things about Columbus. Plan to stay an extra day or so and visit the interesting sites.

In addition to the Neil House, the site of the Convention at 41 South High Street, other hotels are: Broad-Lincoln, 631 E. Broad, Deshler-Hilton, W. Broad and North High Streets, Hotel Fort Hayes, 31 W. Spring, Jefferson Hotel, 17 E. Spring, Norwich, E. State and South Fourth, Seneca, 361 East Broad, Southern, So. High and East Main, and Virginia at No. 3rd and East Gay. In addition to the hotels, the following are a few of the motels in and near Columbus: Brookside Tour-O-Tel, 3020 East Main, 40 Motel, 3705 West Broad, Forty Winks, 3190 East Main, Inn Town Motel, 595 W. Broad, Lincoln Lodge, 4950 W. Broad, and Mid-City at 950 East Broad.

Hotel Rates at the Neil House are as follows: Single rooms, from $5.50 to $9.00. Double bedroom for two, from $9.00 to $11.00. Twin bedroom for two, per day, from $11.00 to $14.00. For additional persons in double or twin bedrooms, the extra charge is $3.00 per day. Suites of living room, bedroom and bath, from $15.00 up. If the room at the rate requested is not available, one at the nearest available rate will be assigned.

Columbus is located in Central Ohio at the junction of the Olentangy and Scioto Rivers. It is on the highway, 141 miles from Cleveland, 110 miles from Cincinnati, 185 miles from Pittsburgh, 317 miles from Chicago, and 550 miles from New York City.

A Word to the Wise

SHOULD YOU have an unusual experience in beekeeping, or, if you think you know a thing or two about handling bees that others do not know, why not put it down on paper and send it in to Gleanings? Share your knowledge and experiences with others. You can't take them with you. We pay for articles and clear pictures that seem suitable for publication. Contributions that are not acceptable will be returned promptly, if postage accompanies them.

Fantastic Yet True

Honey Brings $1.25 Per Pound; Comb Honey, $2.50 Per Section

Honey exhibit at National Honey Show at Florida State Fair. Cooking exhibit in the show case shown in foreground.

EIGHTY-FOUR one-pound jars will return $1.25 each to their producers at the Florida State Fair during the National Honey Show in Tampa, February 4th through 8th, 1958. Six sections of comb honey will bring someone $2.50 per section. Six two and one-half pound jars of chunk honey will return $2.50 per jar. The next place six jars of chunk and section comb will bring $2.00 each. In fact, you may go on down to sixth place and yet receive more than retail price for your product. More than 500 jars will win cash prizes above their retail value.

Imagine! Five pounds of beeswax will bring $3.00 a pound, another five pounds will bring $2.40, and even sixth place will bring 80c a pound.

Think of one dozen cookies bringing $5.00, or 12 pieces of candy for $5.00.

Also, for the winner of each class there will be an engraved 13-inch silver plated tray and in addition, the Sweepstakes winner will get a beautiful center piece bowl. And on top of that, the Hazel Atlass Glass division of Continental Can Co. has just agreed to award a 44-piece set of their "Tempo" tableware for the winner of each class. Where else can you get so much for your honey? All winners second through sixth place will get ribbons to prove it, and there are 78 in all to be awarded.

THESE POSSIBILITIES EXIST ONLY IF YOU ENTER YOUR EXHIBIT SO THAT IT REACHES THE FLORIDA STATE FAIR (HONEY EXHIBIT) TAMPA, FLORIDA NOT LATER THAN 5:00 P.M., FEBRUARY 3, 1958.

If you need further information write at once to Robert Banker, Cannon Falls, Minn., or to Fred Oren, 2516 Silver Lake, Tampa 4, Florida; Millard Coggshall of Minneola, Florida will attend the ABF convention at Columbus and has offered to transport entries brought to Columbus to the Show. If those who would plan to send honey in this way would contact him as to the amount they plan to bring it would enable him to plan for the load.

—Fred Oren, Superintendent
National Honey Show

Solomon Was Right

says HOWARD J. ROCK, Dale, Wisconsin

"EIGHT SUPERS of comb honey from a June swarm?" "You must think that I just came in from the country with a load of pumpkins!"

I had been explaining my season's experience to a city grocer, a backlotter like myself. He was a very good customer for my comb honey.

This took place in the early 1930's when I was just out of high school and had a small apiary in a corner of the garden.

As Dale is a small cross-roads community it was well known that I was a "nut about playing with bees" and whenever there was a swarm within several miles I would get a phone call to "come and get your bees."

This particular swarm of which I am writing about was indeed an education for me.

I hived this medium-sized swarm the second day of June. The queen was especially pretty being almost golden and by her appearance was quite young. The bees in the swarm were of a uniform three-banded appearance.

The swarm was given ten black combs for a brood nest and two supers for comb honey.

As time went by, I became more and more impressed by the compactness of the brood and the beautiful work on the section comb honey. I also noted that the queen was not purely mated since the color pattern of the workers seemed to suggest multiple matings with drones of who knows what geneology.

This swarm stored and finished very beautifully light 28-section supers of clover and buckwheat-goldenrod honey. It was as good or better than any other of my 17 colonies, all of which were pure Italians and Carniolans. It arranged its 10-frame brood nest very ideally for winter. The only winter preparation it received was to have an entrance closure given, otherwise it went through the winter there on its summer stand.

On a cold day in late November I gave it a last peek. There were seven frames of bees tightly clustered. When I looked at them next it was April 1st. There were six frames of bees left and about 20 pounds of honey on the side combs. They were fully equal to my two-story colonies.

During the subsequent summer the only attention they received was the adding of comb supers. Again they were the equal of the best of the other hives.

I used to wonder about why all the other colonies took so much attention while this swarm paid off with two satisfactory crops and all I did was add supers and remove them when they were finished.

The big yellow queen was superseded the second autumn and I will never know if her daughter inherited her ideal characteristics as the colony was lost when the adjacent creek flooded over in the early spring.

Why was this colony so ideally superior in long-lived bees and compact brood nest plus being unusually five comb honey finishers? Since the queen was so yellow I wonder if she had a Cyprian heredity from her mother. She was not purely mated as her progeny possessed a variegated abdominal coloration. With all my other efforts with the best stock that I could buy, only the better colonies could equal this swarm in the single brood nest under identical conditions.

Solomon once said, "If it befalls me as it befalls a fool why should I endeavor to be more wise?"

I will leave the reader to his own conclusions.

English Beekeeping

IN GENERAL, 1956 was a very poor beekeeping year for honey production in England. The total yield was lower than the average. The bee population of the country as a whole is probably adequate in number to provide a satisfactory pollination service, though there are many areas in which pollination could be improved by better distribution and movement of existing colonies of bees.

British Bee Journal. July 20, 1957.

Just News

The **Midwestern Beekeepers' Association** will meet at the I.O.O.F. Hall, 812 Westport Road, Kansas City, Missouri, at 2:30 P.M., Sunday, January 12th, 1958. On the agenda will be the installation of the new officers for the year, followed by a general discussion of beekeeping and a picture pertaining to beekeeping. Refreshments served by the Ladies' Auxiliary. Everyone welcome.—J. F. Maher, Secretary.

The **Cook-DuPage Beekeepers' Association** will hold its Annual Meeting and Banquet on February 15, 1958 at the famous Klas' Restaurant, located at 5734 W. Cermak Rd., Cicero, Illinois. Meeting will start at 2:30 P.M. Banquet at 6:30 P.M.

The tentative program is as follows: Dr. Floyd E. Moeller, Apiculturist, University of Wisconsin, Floyd A. Swink, Naturalist of Conservation Department, Forest Preserve District of Cook County, Dr. V. G. Milum, Apiculturist, University of Illinois, Carl E. Killion, Chief Apiary Inspector of State of Illinois, Charles Dadant, Dadant and Sons, Inc., Alan Root, General Manager, A. I. Root Co.

All beekeepers are invited to attend. For further information, contact Mrs. Grace E. Sedlak, Secretary, Rt. 2, Box 461, Oak Lawn, Illinois. Phone: Globe 8-2972.

The **Norfolk County Beekeepers' Association** will hold its next meeting on Monday, January 13, 1958 at 7:30 p.m., at the Norfolk County Agricultural School, Walpole, Mass. Start the New Year right! Come and bring your friends and enjoy a good program. Happy New Year to All.—Edith L. Colpitts, Cor. Sec.

Eastern Missouri Beekeepers closed the 1957 season with the election of officers and trustees at its meeting held November 5.

Ray Reinhold, 103 Sylvia Drive, St. Louis 23, was elected president with John Mordan, Glendale as first vice-president, Herman L. Luly, University City, second vice-president, W. Wallace Daugherty, 4515 Ringer Road, St. Louis 23, secretary, and Kurt Simon, Webster Groves, treasurer.

George C. Nagel was retained as a trustee for an additional three years with Julius Simon elected for two years, Herman A. Meyer for one year. C. J. Wohlwend as retiring president also will serve as a trustee for one year.

Samples of both extracted and section honey produced by members and displayed at the meeting definitely indicated the 1957 crop in Eastern Missouri to be of fine quality both in lightness of color and flavor. Bees in this area without exception, it was reported, are going into the winter in much better condition than in the last two years.

The ladies of the organization served coffee at the meeting with a wide variety of decorated cakes and cookies prepared with honey.

As is the custom the organization will hold no meetings during December and January. The first meeting of the new year is scheduled for Tuesday night, February 4 at St. Louis County Court House, Clayton, when spring management will be the main topic for discussion.—Geo. C. Nagel, 3134 Laclade Station Rd., Maplewood 17, Mo.

The many friends of **Mr. Wendell Shore,** of Superior Honey Company, South Gate, California, will be sorry to learn Mr. Shore suffered a heart attack December 1 while en route to the California State Beekeepers' Convention. He has been confined to the Santa Cruz Hospital, Santa Cruz, California, since December 1. However, he is convalescing with excellent results and has been released from the hospital effective December 14, it is anticipated Mr. Shore will return to work during the middle or latter part of January. Anyone desiring to drop Mr. Shore a card may do so c/o Superior Honey Company, 10920 Garfield Avenue, South Gate, California.

The **Ohio State Beekeepers' Association** held a business meeting in Columbus, December 2. The officers for 1957 were re-elected for 1958, viz. H. J. Vandenburg, La Grange, Ohio, Pres-

ident; Tom Kesse, Columbus, Vice President; and H. R. Swisher of Springfield, Secretary-Treasurer. The membership has doubled during the past year, which appears to be a good omen for the future of the Association and our industry. Ohio leads in 4-H Club beekeeping work according to available statistics. More young people are needed in our industry to fill the gaps made by older beekeepers who drop out each year.

George Rehman presented two representatives of an Insurance Company offering a policy covering the customary losses of bees. This is under consideration and action will be taken during the spring meeting the last week in March. S. E. Bailey, state bee inspector, reported 124,202 colonies inspected in 1957 with a disease percentage of only 1.09. The percentage of disease for 1956 was 1.375.

Circular E-297 to be Revised

"U. S. DEPARTMENT of Agriculture Revises List of Dealers in Beekeeping Supplies, Package Bees and Queens."

The Department of Agriculture desires to revise and bring up-to-date Circular E-297, entitled List of Dealers in Beekeeping Supplies, Package Bees and Queens. This list is sent in response to requests for information as to where bees and supplies can be purchased. All persons and firms who wish to have their names and the commodities which they handle listed should submit the following information:

Name and address
Please check which of the following items you handle:
- Bee supplies
- Honey house equipment
- Bee moving equipment such as hoists, etc.
- Honey containers
- Queens: Italian, Carniolan, Caucasian, hybrid
- Package bees

Kindly mail your reply to:
Bee Culture Section
Entomology Building A
Agricultural Research Center
Beltsville, Maryland

Suggested Relief for Bee Stings

OTTO SCHOLZE of Wisconsin suggests a simple remedy for beekeepers. After being stung he applied honey to cover the odor of venom. After applying the honey he noticed it soothed the sting. If you don't mind being stuck up you should try it too.

H. J. RAHMLOW RETIRES

H. J. RAHMLOW, editor of Wisconsin Horticulture, and executive secretary of Wisconsin State Horticultural Society for the past 24 years will retire as of February 1, 1958. Mr. Rahmlow plans to live in St. Petersburg, Florida, during the winter months and will spend summers either in Wisconsin or visiting America's beauty spots.

Mr. Rahmlow has had considerable experience in beekeeping, having started in 1918 and from 1922 to 1927 operated 150 colonies as a hobby while he was county agent.

In 1933, the Wisconsin State Beekeepers' Association, at its annual convention, voted to affiliate with the Wisconsin State Horticultural Society and have Wisconsin Beekeeping as a part of the magazine, "Wisconsin Horticulture".

Mr. Rahmlow reorganized the Association which in 1934 had about 60 members, till about ten years ago it reached a membership of over 600 members. Five districts of the state were organized and for many years Mr. Rahmlow planned the spring and summer meetings.

Because of close association with the Central States Bee Culture Laboratory and Dr. C. L. Farrar, it was possible for Mr. Rahmlow to keep abreast with the latest developments in beekeeping and to write articles for Wisconsin Beekeeping. He has also contributed articles to Gleanings.

During the recent Wisconsin convention members of the Association presented Mr. Rahmlow with a speedgraphic camera as a token of their appreciation of services rendered during the years.

Beekeepers will miss Mr. Rahmlow's writings, also appearances on programs. We of the Gleanings staff wish him and his family future happiness.

XUM

A Tribute to a Friend

THE FOLLOWING tribute to Dr. Arnold Parker Sturtevant, Director of the Western States Apiculture Disease Research Laboratory, Laramie, Wyoming was prepared by William L. Chapman, State Commissioner of Agriculture and presented by Harley K. Kittle, President of the Wyoming State Beekeepers' Association at its annual meeting at Worland, Wyoming, December 4 at a banquet held in Dr. Sturtevant's honor marking his retirement March 1, 1958. The beekeepers presented Dr. Sturtevant with a Sonic Transistor radio.

"Arnold Parker Sturtevant was born on September 2, 1889, Denver, Colorado. He received his Bachelor of Arts Degree at the Clark University in 1912 and further studied as a graduate student at Massachusetts Institute of Technology from 1912 to 1914. He was awarded the degree of Doctor of Philosophy in 1923 at George Washington University.

"Dr. Sturtevant holds membership in the following honorary fraternal, and religious organizations:

"Wyoming Chapter of Sigma Xi; National Society of American Bacteriologists; Wyoming Association of Bacteriologists; Methodist Church; Musical Arts Club of Laramie, Wyoming.

"Dr. Sturtevant's professional assignment dates back to December 1, 1914 to June 1, 1915 as Bacteriologist in charge of the Tuberculin Laboratory for H. K. Mulford Co., Glen Olden, Pennsylvania; from June 1, 1915 to December 1, 1916, he held the position of Assistant in Comparative Pathology Experiment Station, Amherst, Massachusetts from December 16 to October 31, 1926, Dr. Sturtevant was in charge of bee disease investigations—Bee Culture Laboratory, U.S.D.A. Bureau of Entomology, Washington, D.C. From this highly important post, Dr. Sturtevant, on November 1, 1926, was placed in charge of the Western States Apiculture Disease Research Laboratory located at the University of Wyoming, Laramie, Wyoming, where he has served in a highly proficient and commendable manner up to the present time.

"Now come March 1, 1958, Dr. Arnold Parker Sturtevant, having reached retirement age, will lay down the title of Head of Western States Apiary Disease Research Laboratory. He will have served continuously as head of this laboratory since November 1, 1926. His retirement will attract nation-wide attention because during over 31 years of service he made an imprint on apiary progress in the Western States unexcelled by any other man.

"A modest and unassuming man Dr. Sturtevant has been endowed with a great fund of native ability and common sense, plus scientific knowledge in his chosen field of Entomology, combined with tremendous physical and mental energy. He has worked assiduously and acquired a knowledge of science and husbandry in his profession, perhaps unsurpassed by any scholar of his day. Thus equipped, Arnold Sturtevant, consecrated his life to the task of improving and bettering the lives of thousands of beekeepers throughout the nation, thereby improving farm economics and ameliorating rural life generally. His zeal has been practical and modestly expressed. He merely wished to help our beekeepers to gain a good living from their chosen profession and endeavors in such a manner that our people will look with pride upon the results of their labor, and thereby improve the general levels of family life and community life."

Therefore, we here assembled at this occasion in recognition of Dr. Sturtevant's great service to the beekeepers of this great State of Wyoming are this day, December 4, 1957, pleased to adopt the above statement as a resolution to be incorporated into the minutes of Wyoming Beekeepers' Association. (A call was made for a second and a standing ovation for Dr. Sturtevant.)

"I want to tell you how much I enjoyed the last issue. It was chuck full of good reading. Although I am a beginner I got a big kick out of it.—F. A. R., Md.

Asked & Answered

Processing Large and Small Lots of Honey

Q. What is the best way to get honey ready for market?

A. There are various methods of pasteurizing and processing honey that have been developed and used during the years. If the beekeeper has a comparatively small amount of honey to put on the market in glass or tin containers, the honey can be heated in 60 pound cans over a gas hot plate and brought to a temperature of around 155 or 160 degrees F. and kept at that temperature for about half an hour, then cooled. This heating destroys any yeasts that may cause fermentation. The honey is also thoroughly liquefied. To process honey in quantity, a double jacketed tank may be used, the space between the two walls of the tank to be filled with water. Such a tank has an agitator which revolves rather slowly, keeping the mass of honey in the tank, in circulation. After the honey has been heated to the desired temperature and left at that temperature the desired length of time, the hot water in the jacket is run off and cold water takes its place. If you plan to process honey on a large scale it would be well for you to visit one of the large packing plants to get some ideas on how this work should be done, also on the equipment to be used.

Aster Honey as Winter Stores

Q. I have 150 colonies supplied with 30 to 40 pounds of fall honey partly from aster. Is this honey safe for winter stores, or should I extract it and feed sugar syrup?

A. Aster honey, if well sealed in the combs, is usually a safe food during winter if the colony is strong. Whenever the bees are able to fly freely every week or ten days during the winter, they should winter well even when using poor stores. In localities where the bees are confined to their hive during the winter for several weeks or several months, without a flight, honey gathered from fall flowers is not as good as light-colored table honey. Buckwheat, an almost black honey, is excellent as a winter food.

Granulation Not a Chemical Change

Q. Does granulation change the character of honey so far as digestibility is concerned?

A. No. The change brought about by granulation is a physical one, not a chemical change. When honey granulates the dextrose first crystallizes, and the levulose, which remains liquid to a large extent, fills the spaces between the crystals of dextrose. When granulated honey is taken into the stomach it is dissolved and quickly assimilated. In fact, in the case of well-ripened honey no digestive action is necessary, the honey being ready for assimilation without any change whatever.

Cause of Heavy Loss in Cellar

Q. I have been losing from 50 to 75 per cent of my colonies in the cellar. The temperature never goes below 38 degrees and never above 45 degrees. The insides of the hives are always wet and mouldy. What causes this trouble?

A. It is not possible to tell from your question what caused such a heavy winter loss. The mold and dampness which you noticed in the hives tell us that the bees were too active to winter well, and also that the temperature of the cellar was too low to prevent the condensation of the moisture within the hive. Increasing the temperature of the cellar a few degrees above that which you had, will reduce the condensation of moisture within the hive and at the same time reduce the activity of the bees in keeping warm, thus reducing the amount of water vapor which they give off. While the temperature you mention is rather low for best wintering, the temperature alone is not a sufficient explanation of a winter loss of 50 per cent to 75 per cent. If your colonies were strong in vigorous young bees in the fall and were put into the cellar just after a good cleansing flight, about the only explanation of the heavy winter loss is that of inferior winter stores.

Buy and Sell

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 18c per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month, preceding publication.

HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. THE HUBBARD APIARIES, ONSTED, MICHIGAN.

IOWA honey, one can or truck loads. RUSSELL D. SMALLEY, BEAVER, IOWA.

CLOVER extracted honey in sixties. ABRAM BRUBAKER, RT. 2, LANCASTER, PA.

FOR SALE—Pure tupelo and wild flower in 60's. Honey candy. EN-R-G FOODS, INC., P. O. BOX 232, LANCASTER, PA.

QUALITY honey by established producers. NORTH CENTRAL HONEY PRODUCERS' LEAGUE, ROUTE 2, BELOIT, WISCONSIN.

MICHIGAN'S FINEST WHITE CLOVER HONEY. New sixties. Fully ripened. You'll be pleased. Sample 20c. JOHN McCOLL, TECUMSEH, MICH.

HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on CO.D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—All grades of extracted honey. Send sample and price. DEER CREEK HONEY FARMS, LONDON, OHIO.

CASH FOR BEESWAX. Write as to quantity and we will quote price. MUENCH-KREUZER CANDLE CO., INC., SYRACUSE, N. Y.

WANTED—White extracted or comb honey. Send sample. MILLERSPORT HONEY CO., MILLERSPORT, OHIO.

BEESWAX WANTED—Highest prices paid in cash or trade for bee supplies. THE A. I. ROOT COMPANY, MEDINA, OHIO; COUNCIL BLUFFS, IOWA; SAN ANTONIO, TEXAS.

WRITE FOR SHIPPING TAGS and quotations on rendered beeswax. We buy from one pound up and if you have over 25 pounds let us work it into foundation for you at a 25 per cent saving. WALTER T. KELLEY CO., CLARKSON, KY.

WANTED — Light amber clover, fall flowers, buckwheat, and white clover. Send sample and lowest price. CLOVERDALE HONEY CO., FREDONIA, N. Y.

WANTED—Honey in 60 pound cans, also beeswax, any quantity. L. E. ALLEN, TIPTON, MICH.

CASH for Amber and Buckwheat Honey. Best cash price for wax. HUBBARD, ONSTED, MICH.

WANTED—Buckwheat and light amber honey. EASTERN FOOD PPRODUCTS, 421 BEDFORD AVE., BROOKLYN, N. Y.

WANTED—Section box, chunk comb, extracted white-water white. Send sample. PARAGON PRODUCTS, 6632 RAYTOWN RD., RAYTOWN, MO.

WANTED, chunk comb and extracted honey. Mail sample and price. STOLLER HONEY FARMS, LATTY, OHIO.

WANTED—Good flavored amber and light amber honey. Can or car load. Send sample and best price to HONEYMOON PRODUCTS CO., 39 E. HENRY ST., RIVER ROUGE 18, MICH.

HONEY WANTED all grades and colors, in tins or drums, granulated and liquid, highest prices paid, trailer loads. Send samples representing each lot. ALSO ROYAL JELLY. Write CHAS. E. FARRIS CO., 99 HUDSON STREET, N. Y. CITY. Established since 1910.

WANTED—White extracted and buckwheat. Send sample and price. TRAPHAGEN, HUNTER, N. Y.

FOR SALE

WRITE FOR CATALOG—Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. THE HUBBARD APIARIES, Manufacturers of Beekeepers' Supplies and Comb Foundation, ONSTED, MICHIGAN.

THE BIGGEST BEE SUPPLY Catalog published (64 pages) free for the asking. Listing many items not found in other catalogs. No agents—buy direct and save 20%. WALTER T. KELLEY CO., CLARKSON, KENTUCKY.

QUEENBEE PAINTING OUTFITS, $1.50 postpaid. SOUTHWICK APIARIES, WABAN, MASS.

WHITE CLOVER honey in new sixties. Truck load or more. WESLEY JOHNSTON, BAD AXE, MICHIGAN.

Makers of ROBINSON plain and WAVY-WIRED foundation. Also render and buy beeswax. Order direct from manufacturer and save dealer costs. Shipping tags free. WAX WORKERS, INC., ITHACA, N. Y.

Large comb honey outfit. Some extracted. Idaho's best producing area. MRS. FRED ROBINSON, 503 FIFTH ST., S., NAMPA, IDAHO.

SUPERS, $1.00; four-cleat COVERS and BOTTOMS $.75; FRAMES, 1 M, $80.00; 5M, $75.00; 10 M, $70.00. Write for price list. JOHANSON'S BEE FARM, 11360 REDWOOD HIGHWAY, HEALDSBURG, CALIFORNIA.

CLOSE OUT—New Factory Made 8-Frame Equipment. 17 Metal Roof Covers Hives, packed 1 in a carton, $5.00 each; 50 Bottom Boards, packed 5 in a carton, $1.00 each; 185 Hive Bodies, packed 5 in a carton, $1.25 each; 15 Metal Roof Covers with Inner Covers, packed 5 in a carton, $2.00

each; 65 Sh. Ex. Super Shells, 6⅝ inch Depth, packed 5 in a carton, $1.25 each; 15 Style Four Super Shells, packed 5 in a carton, 75 cents each; Material subject to prior sale. A. G. WOODMAN CO., GRAND RAPIDS 4, MICH.

BEES AND QUEENS FOR SALE

We use all possible care in accepting advertisements but we cannot be held responsible in case disease occurs among bees sold or if dissatisfaction occurs. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

CARNIOLAN and CAUCASIAN Bees for 1958. Booking queens. Each, $1.00; 2-pound bees with queen, $4.00. 3-pound bees with queen, $5.00. LEWIS & TILLERY BEE CO., RT. 3, BOX 251, GREENVILLE, ALABAMA.

PRODUCTIVE ITALIAN QUEENS — $1.00 each. Ten up, 90 cents. SHIRL BAKER, RODNEY, MICH.

ITALIAN and CARNIOLAN bees and queens. LUTHER PICKETT, ELFAND, N. C.

HELP WANTED

WANTED—Man to operate retail sales and parcel post. Some knowledge of bees needed. State age, experience, family status, and salary range desired. THE A. I. ROOT CO., MEDINA, OHIO.

HELP WANTED—We need one GOOD man for year around work and one or two for a few months. WEAVER APIARIES, NAVASOTA, TEXAS.

WANTED—Dependable bee men, good salary, modern 5,000 colony outfit. Also modern housing furnished if desired. Seasonal or year-round work. JIM'S VALLEY APIARIES, JAMES E. BUNCH, SUNNYSIDE, WASHINGTON.

WANTED: Two men for 1958 package season. Write for full information, giving experience, age, height and references. HOWARD WEAVER & SONS, NAVASOTA, TEXAS.

WANTED: Experienced queen breeder and beekeeper. Give full information in first letter. YORK BEE COMPANY, JESUP, GEORGIA.

POSITION WANTED

Experienced German Beekeeper, 28, wants occupation in commercial apiary. HERBERT LADWIG, DUSSELDORF, HEINRICH-STR. 106, GER.

SEEDS

HONEY PLANTS our specialty. Catalog on repuest. PELLETT GARDENS, ATLANTIC, IOWA.

MISCELLANEOUS

BEES REMOVED from house or tree or hive without touching either house or bees. Bees will then move honey into hive. Save property, honey and bees with my method. Send $2.00 for details. Satisfaction guaranteed. GEORGE HAWKINS, RT. 1, LAWSON, MO.

FOR SALE—ROYAL JELLY and the Little Queen Royal Jelly Extractor. ROYAL JELLY ENTERPRISES, 1012 LOS CARNEROS AVE., NAPA, CALIF.

ROYAL JELLY. Nationally known "Api-Vitalex" brand hi-potency. Royal Jelly products. Capsules and Beauty Creams. Wholesale distributors and agents sought everywhere; particularly among beekeepers. Large profits available. Write airmail for prices and literature. "API-VITALEX" DEPT. BG; BOX 6674, MEDICAL CENTER STATION, DALLAS 19, TEXAS.

ROYAL JELLY box of 30 capsules with 50 MM. Royal Jelly per capsule, $4.35 to beekeepers. Retails for $8.50; box of 1000, in bulk, $135.00. Postage paid in the U. S. PRAIRIE VIEW HONEY CO., 12303 12th ST., DETROIT 6, MICH.

HONEY WANTED
Carloads and less than carloads. Mail sample and best prices in all grades.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

THREE-BAND ITALIANS
Quality and service guaranteed to please.
W. E. PLANT
HATTIESBURG, MISS.

Packages "Gulf Breeze" Queens
We solicit inquiries on packages bees and queens for spring delivery. Our personal attention to all inquiries.
BESSONET BEE COMPANY
Donaldsonville, La.

Booking orders now. Over 30 years a shipper. Send for Free Circulars.
BLUE BONNET APIARIES
Weslaco, Texas

LITTLE'S
ITALIAN QUEENS
1 to 24 ..... $1.45
25 to 99 ..... 1.35
100 and Up 1.25
Until June 15
ROYAL JELLY
Bulk & Capsules Write for Prices
LITTLE'S APIARIES
Shelbyville, Tennessee

BUILD your own FACTORY TYPE HIVES and SUPERS with SAMSON CORNER JOINTS. Only a bench saw and hand tools required. Our low cost Copyrighted BLUE PRINTS and INSTRUCTIONS cover everything and can save you many dollars. Write for information.
EARL TAYLOR, MALCOM, IOWA

HONEY LABELS
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
C. W. AEPPLER COMPANY
Oconomowoc, Wisconsin

CAUCASIAN QUEENS & BEES FOR '58

Prices	2-lb. & Q.	3-lb. & Q.	Extra Qns.
1 to 24	$4.25	$5.35	$1.40
25 to 99	4.00	5.10	1.30
100 & up	3.75	4.85	1.20

NOTICE: We are adding Dadant's new Midnite Caucasian type Hybrid queens to our regular Caucasian line. When ordering Midnite queens or packages add 30 cents extra per queen or package. For descriptive folder write.

HOWARD WEAVER & SONS
NAVASOTA, TEXAS

CARNIOLAN and CAUCASIAN QUEENS

I desire to thank my customers for their patronage and patience in filling their orders during the wettest season on record according to weather bureau report. Increasing output again to try to meet the increased demand for Carniolan and Caucasian Queens. They are the answer to gentleness and production. Booking orders for (queens only) for early March 1958.

W. D. REAMS
Box 87 LaBelle, Fla.

Dear Customers:

We wish to take this opportunity to thank you for the business that you have given us in the past. We are booking orders now for 1958 shipment, so please let us have your order as soon as possible. Thank you.

CARLUS T. HARPER
New Brockton, Ala.

FLOWERS' QUALITY ITALIANS
THAT STAND TEST FOR HONEY-GATHERERS
GENTLE PROLIFIC

We have better bee sand queens to offer for '58. Bred from hives making 300-pounds of honey or over. If you need early queens, we will have them, 1 or 1000.
Booking orders now for choice shipping dates. So don't wait; Phone Juno 4-2830 or Juno 4-2837.
FLOWERS BEE COMPANY Jesup, Georgia U.S.A.

J. E. WING & SONS
44 Years Continuous Service
Italian Package Bees
and Queens
Our Specialty
Knights Landing, Calif.

ROYAL JELLY BEAUTY CREAM in ¾-oz. jar, $1.50 to beekeepers, retails for $3.00. 1-oz. jar, $2.00 to beekeepers, retails for $4.00. 2-oz. economy size, $3.50, retails for $7.00. PRAIRIE VIEW HONEY CO., 12303 12th ST., DETROIT 6, MICH.

INFORMATION on producing and preserving Royal Jelly commercially. We are the first to advertise Royal Jelly for sale in natural form, in leading bee journals throughout the U.S.A. I don't believe our record of production is surpassed anywhere. Information of our years of experience "The Short Steps to Production" will be sent prepaid for only $4.75. O. K. ANDERSON & SON, BOX 193, COFFEE SPRINGS, ALA, U.S.A.

ROYAL JELLY box of 30 capsules 25 mg., each, $5.00; 10 boxes, $25.00; 50 mg. box of 30 capsules $8.50; 10 boxes, $42.50. Prepaid in U.S. SUNNYBROOK HONEY FARMS, 13600 LIVERNOIS, DETROIT 38, MICHIGAN.

CASH PAID for 10-frame bee equipment with or without bees. Will pick up at your honey house. BOX 158, MEDINA, OHIO.

WANTED—Book entitled "Fifty Years Among The Bees", by Dr. C. C. Miller. C. K. NESBY, 10806 93 AVE., EDMONTON, ALBERTA, CANADA.

MAGAZINES

Archiv fur Bienkunde, International journal for Bee Culture and beekeeping economics. Founded in the fall of 1918. Oldest economic bee journal in the world. Praised again and again for its decades of independent leadership through many endorsements and advice as a valuable source also for the practice. Classic. Yearly DM 5.50. Any aspiring beekeeping friend will receive a sample copy. BIENE-VERGLAG, GIELBACK, LINDAU, GERMANY.

Know interesting facts concerning the bees of India through the INDIAN BEE JOURNAL, published in English by the Bhupen Apiaries (Himalayas), Ramgarrh Dist. Naini Tal, U.P. India or available through them. Subs. Rs9/ or 15 shillings or $2.25 yearly. Sample copy post free for Rs ½, or s2/6, or 40 cents (International Money Order). Payment in mint postage stamps of your country accepted.

YOU'LL LIKE GOAT MILK! Profit and health with dairy goats. Sample monthly magazine and information FREE. DAIRY GOAT JOURNAL, DEPT. T, COLUMBIA, MO.

BEE WORLD, the international journal of the Bee Research Association published monthly, contains the latest research reports on bees and beekeeping. With Apicultural Abstracts it costs $5.50 per annum, or $6.00 including membership of the Bee Research Association. Apicultural Abstracts only $4.50 per annum from the Hon. Subscription Secretary, Bee Research Association, 10 Barnett Wood Lane, ASHTEAD, Surrey, England.

Read the South African Bee Journal. Published every two months. Subscription 7/6 per year to the Treasurer, P. O. Box 3106, Cape Town, South Africa.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, Box 189, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription $3.00. Sample copy 25c.

Italian Queens
EUGENE WALKER
Rt. 2, Bok 207
Live Oak, California

A TALK TO BEEKEEPERS

(Continued from page 46)

ages arrive. This is not a difficult matter. Some who have never had any experience in handling bees may think that bees in packages will sting. As a matter of fact, such bees after arriving from the South are likely to be filled with sugar syrup and can be handled quite easily, without much danger of being stung. In future talks we will have more information on transferring bees from packages to hives.

Getting Quick Returns On an Investment

When packages are installed quite early in the season, at the beginning of the fruit bloom and dandelion honey flow in the North, it is possible, with proper management to have the packages develop into populous colonies of bees that will store a good crop of honey the same season, provided of course, conditions are favorable for nectar secretion.

This means that it is possible for those who start with package bees to realize a return on their investment in bees the same season. For example, if packages are put into hives during late April, and if they develop into colonies that store the maximum crop during June, July and early August, the honey can be removed from hives during late summer and sold. This means that returns on an investment can be realized in less than six months. This cannot be said of some other investments.

CANADA'S
National Monthly Magazine for Beekeepers
Canadian Bee Journal
Streetsville, Ontario, Canada

BRITISH BEE JOURNAL
The Only FORTNIGHTLY Bee Journal in the World
Subscription price £1.1.0 per annum, post free, six months 11/6d. post free and three months 6/3d. post free.
Keep up to Date in Beekeeping by taking out a subscription now through our agents:
Gleanings in Bee Culture
Medina, Ohio

"Wishing you a Happy and prosperous New Year"

Let us remind you that we stand ready to serve you, but you must give us your order as soon as possible for the dates you prefer. Orders are now coming in. Will feed Fumadil B to control any possible Nosema.

1958 Package Bee Prices

	2-lb. w. Reg. Qn.	3-lb. w. Reg. Qn.
1-25	$4.75 ea.	$5.75 ea.
26-99	4.50 ea.	5.50 ea.
100 up	4.25 ea.	5.25 ea.

For Island Hybrid Queens add 30c per pkg.
"They Produce"

ROSSMAN APIARIES
P. O. Box 133 Moultrie, Ga.

SUE BEE SAYS:

PLAN AHEAD

Everyone is busy now taking care of this year's honey crop. Do not neglect the fall work that will mean the diffference between a good crop and just a crop next year.

One of the most important items is the health of the colonies you will winter over. A small amount of Fumidil B fed this fall will pay big dividends next spring

We have a large, fresh stock of Fumadil B as well as Terramycin and Sulfathiazole. Check these prices. Your order in the mail today will insure prompt attention.

0.5 gm. Fumadil B.	$ 2.40
9.5 gm. Fumadil B.	28.50
1 lb. Sulfa Sodium or fine powder	4.50
10 lb. Sulfa Sodium or fine powder	38.25
1 lb. Terramycin T. M. 5	1.25
10 lb. Terramycin T. M. 5	10.00

Will see you at Columbus, Ohio. Meeting, January 27

SIOUX HONEY ASSO.
Sioux City, Ia. Lima, O. Waycross, Ga.
Anaheim, Calif. Rogers, Texas
Tacoma, Wash.

Dadant Starline Hybrids and Garon's 3-Banded Italians

Due to the unsettled conditions in the movement of package bees by express because of the pending express rate increase on this commodity, we find it necessary to await further developments before publishing our 1958 prices. Please write for further information.

Reg. U. S. Pat. Off.

GARON BEE COMPANY **Donaldsonville, La.**

QUEENS
only
QUEENS
A. Vallotton

1440 So. Juniper
Escondido, Calif.

A new name in the trade but backed by 35 years of successful commercial beekeeping on three continents. The most modern methods and equipment and 4000 nucs. Breeding queens selected between Key West and Seattle during a two years' search. The ideal location to produce queens of the highest quality possible at any price and as early as March.

1-100 ..... $1.25
100 up 1.10

Ask for more information and prices on large orders booked far in advance.

HOLLOPETER'S ITALIAN QUEENS
In Season
WHITE PINE BEE FARMS Rockton, Penna.

TOO LATE TO CLASSIFY

HELP WANTED—Experienced and inexperienced help for 1958. Box 72, Gleanings, Medina, Ohio.

WANTED—Experienced man for queen and package production. Seasonal or year around. LIONEL HOPKINS, MARINGOUIN, LA.

Twist
No. 1 Grade Supers
$1.10

Supers
No. 2 Grade Supers
85 Cts.

201 Alpha St., San Francisco 24, Calif.

BEEKEEPING IN NEVADA

(Continued from page 24)

In southern Nevada bees produce honey from mesquite trees in the Las Vegas area, and alfalfa, clover, and cotton in the Moapa and Pahrump Valleys. The beekeepers throughout Nevada own small farms and operate bees along with other farm enterprises.

The beekeeping industry in Nevada is expected to increase in the future and become a valuable part of agriculture in the state. This is being brought about by the large crops of excellent quality honey and an increase in certified seed acreages, which require bees for the production of good seed yields.

FOUR GENERATIONS OF BEEKEEPERS

(Continued from page 29)

my husband made our home, I started with only six hives, which over the years I gradually increased to over 300 hives, the care of which I did alone with the exception of temporary help at extracting and packing time. My largest crop while operating alone was over 50,000 pounds of No. 1 white honey. Three hundred hives in one location I think is a record.

Today, beekeeping with me is but a hobby. I keep 50 hives to insure my good health, and, so long as I am able to get around I shall continue to maintain an active interest in beekeeping.

YORK'S Italians Starlines and Midnites

for 1958

Fumadil Fed and Quality Bred

It's time to plan for quality packages for quality honey in 1958. Greater demand for April shipping dates makes early planning and ordering necessary.

Supersedure your problem? Order for delivery larger packages for arrival later than usual. Also, realize that York's Queens are Fumadil fed during periods to assure fast buildup.

Help us to help you, ORDER TODAY.

MARCH - 1958

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL - 1958

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY - 1958

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

Want to pick up your bees: Truck loading facilities are among the best with daily volume high enough to avoid package holdover.

Shipments also by express and parcel post.

Air freight shipments are possible if you can pick up your bees from large air terminals. Write us for further information.

Packages with Italian Queens

Quantity	1-24	25-99	100 up
2 lb.	$4.50	$4.25	$4.00
3 lb.	5.70	5.45	5.20
4 lb.	6.90	6.65	6.40
5 lb.	8.10	7.85	7.60
Extra Queens			
Italian	1.45	1.35	1.25

Packages with Starline or Midnite Queens

Quantity	1-24	25-99	100 up
2 lb.	$4.80	$4.55	$4.30
3 lb.	6.00	5.75	5.50
4 lb.	7.20	6.95	6.70
5 lb.	8.40	8.15	7.90
Extra Queens			
Starline or Midnite	1.75	1.60	1.55

Queenless packages —deduct $1.00 per package

Tested Queens — add $1.00 per pkg. or for extra queen.

Terms: Small orders cash, large orders $1.00 deposit per package and balance two prior to shipping date.

Midnites---the new Caucasian hybrid strain available here during their first year of commercial production. Orders are already being booked for most of the more desirable dates. Be among the first to give this bee a trial in your area. Production and gentleness promise to be unsurpassed.

Remember, from York Bee Company you get the Strains Preferred by Leading Honey Producers.

Shipments start first of April depending upon spring weather conditions.

YORK BEE COMPANY **Jesup, Georgia**
(The Universal Apieries)
412 W. Orange Street **P.O. Box 300**
Phone: Garden 7-4131

Reg. U. S. Pat. Off.

Package Bees and Queens

"ITALIANS"

BOOKING ORDERS

WRITE FOR CIRCULAR AND PRICE LIST

Quality Does Not Cost — It Pays

THE WILBANKS APIARIES, Claxton, Ga.

QUALITY BRED ITALIANS

Jan., Feb., and March, $1.45 ea.
April and May ..... 1.00 ea.
June through Oct., ... .75 ea.

Package Bees ready in April

Two pound .....(f.o.b.) $4.15
Three pound .....(f.o.b.) 4.90

We prefer to send package bees by Parcel Post so please inclose postage with order. All queens selected from our Northern Apiaries for Hardiness and Honey production All queens shipped Air Mail.

Walter D. Leverette Apiaries
Box 364, FORT PIERCE, FLORIDA

QUEENS

Italians	Caucasians		
	1-24	25-99	100 up
2-lb pkg. w/q	$4.30	$4.25	$4.00
3-lb. pkg. w/q	5.40	5.30	5.10
Nice large qns.	1.25	1.15	1.05

Again this season we have enlarged our queen yard to fill your orders. So send us your order of 1 or 1000.

Producer of Royal Jelly

Mitchell's Apiaries
Bunkie, La.

1958 Prices
Italian Bees and Queens

	1-24	25-99	100-up
2-lb. pkg. with queen	$4.50	$4.25	$4.00
3-lb. pkg. with queen	5.70	5.45	5.20
Italian Queens	1.45	1.35	1.25

We are feeding Fumidil for Nosema control.

J. F. McVay Jackson, Alabama

BETTER BRED QUEENS
THREE BANDED ITALIANS
Thanking our many customers for this good year's business. Booking orders for 1959.
CALVERT APIARIES CALVERT, ALA.

Protect Your Future. Buy Your Savings Bonds Now.

BETTER QUEENS —

(Continued from page 11)

and desirable ones being continually tested and recreated the stock is certain to attain uniformity, both in appearance and characteristics of performance. But this is not a job for the individual. It is a work that needs to be carried on by organizations with scientifically trained personnel and adequate resources, for the results are certain to be slow with many setbacks to offer discouragement.

It is to be hoped that in a few years a number of agencies may be set up that can offer breeding stock for any of us who want to raise our own queens or raise queens to sell. Before a certain strain can be advertised certain standards in breeding methods will doubtless have to be met by those wishing to sell queens. But the lines should be there so that a man can select a strain suited for any one of the several types of beekeeping practice the same as he now may buy a cow for the foundation of a herd for dairy production or for producing beef, or a dog to raise pups that will be suited for hunting coons or hunting birds, or driving sheep, or strickly for looks.

In the meantime it is still highly important that we use every care to produce the best queen possible from the stock at hand in order that she may have great capacity for egg laying and thus produce a populous colony, that she may not fail in early life and thus cause a case of supersedure or queenlessness in the colony that she is intended to head. A well-reared queen of mediocre stock is still a better bet than a poorly reared queen of the best blood lines.

(to be continued)

THREE-BANDED ITALIAN PACKAGE BEES AND QUEENS

Shipped anywhere in United States and Canada

1958 PRICES FOB HAMPTON, SOUTH CAROLINA

	Qns. ea.	2-lb. & Qn.	3-lb. & Qn.	4-lb. & Qn.	5-lb. & Qn.
1-24 Packages	$1.40	$4.25	$5.25	$6.25	$7.25
25-99 "	1.30	4.00	5.00	6.00	7.00
100 up "	1.20	3.75	4.75	5.75	6.75

(For Queenless Packages deduct Price of Queen)

Queens clipped and painted if desired. Guaranteed safe arrival.

Health Certificate with each shipment. Shipper rated in Dun & Bradstreet.

TERMS: One third with order, balance 15 days before shipment.

H. C. BRUNSON **P.O. Box 188** **HAMPTON, S. C.**

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LET'S TALK ABOUT HONEY PLANTS

(Continued from page 42)

am at present investigating the possibilities of using various bees as tomato pollinators particularly in greenhouses." I have been unable to find any sign of nectaries in the flowers of tomatoes in the University greenhouse, although it is possible that a tiny amount of nectar may be secreted by some part of the flower.

Alfalfa. I have recently received a shipment of seeds of the giant brush-type alfalfa from Mr. Sadi, of Nice, France. He enclosed two photographs showing how to sow the seeds and the appearance of young plants 22 days after germination. He also includes detailed directions for the planting and care of the young plants, and ends up with suggestions for beekeeping: "As soon as you have obtained the formation of your bush tuft, prune once a year to obtain the maximum of flowers. By delaying or advancing this pruning, you may obtain these flowers according to the gaps in your honey flows, bearing in mind that the giant brush-type alfalfa is normally in bloom from December to June."

In **Le Courrier Apicole Francais,** a French bee journal, there is an interesting article on this alfalfa with a picture of a three-year-old plant which is 4 feet high and 7.5 feet in diameter. Mr. J. Genevois writes that this plant is particularly remarkable because of its vigorous growth in arid soils. It is constantly covered with lovely golden-yellow clusters of blossoms which are eagerly visited all the year by bees, who find an abundance of nectar.

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